An Address
ON
RHEUMATOID ARTHRITIS.

DELIVERED AT A MEETING OF THE SUNDERLAND DIVISION OF THE BRITISH MEDICAL ASSOCIATION,

BY

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MR. CHAIRMAN AND GENTLEMEN,—When, at the request of my friend Dr. Todd, I consented to give an address to your Division on rheumatoid arthritis, I was told that this complaint is fairly common in this district, and he was specially solicitous that I should give you a few infallible tips on treatment; but I am too old to deal in infallibilities—it is only the young men in all ages who propound infallible cures, which as a rule are short-lived, and the patients become sadder, and the doctors perhaps wiser, men. If it had not been for these cocksure gentlemen, I feel confident that we would have known more about this disease than we do at present; there is a statement made by Karl Pearson in reference to another subject, which is very applicable to this one:

> It is a very uphill battle to contest one after another the various dogmatic statements made by a small section of the younger medical men on the basis of statistics which are hopelessly inadequate, if they are not misread or perverted.

There are few diseases in which greater confusion exists as to their nature and causation than those of the joints, and yet every writer seems to think that he, at least, knows all about the subject. I believe it was Robert Lowe who said that "it does not matter what you say so long as I understand what you mean," but herein lies our difficulty. If you read any textbook dealing with arthritis, you will be a clever man if you know what the author means; and, on the other hand, you may probably consider that the writer does not himself know. You will find a whole series of diseases inextricably mixed up under the same name, or different names applied to the same disease. You find such names as rheumatoid arthritis, infective arthritis, toxic arthritis, arthritis deformans, osteo-arthritis, chronic rheumatism, rheumatic gout, indiscriminately applied to a variety of affections of the joints and to different stages of the same affection.

Arthritis deformans is a common name for the disease with which we are dealing, but if you wait for deformity before correctly diagnosing the disease you may have to wait for years until the patient is becoming a hopeless cripple. Again, some call this affection an infective arthritis, and others call it a toxic arthritis without offering any proof in support of their contentions. As a rule, the less these gentlemen know about infections or toxins the more dogmatic their statements. Good bacteriologists do not talk in this manner, because they have been taught by Koch:

1. The organism in question must be present in the tissues, fluids, or organs of the animal affected with, or dead from, the disease.
2. The organism must be isolated and cultivated outside the body on suitable media for successive generations.
3. The isolated and cultivated organism on inoculation into a suitable animal should reproduce the disease.
4. In the inoculated animal the same organism must be found.

What author who boldly asserts that rheumatoid arthritis is an infective disease has conformed to those postulates, or what is the toxin that lights up this affection? This toxin is as vague and indeterminate as the imaginary "stimulus" which is supposed to initiate and maintain cardiac contraction.

Because certain cases of arthritis have been associated with pyorrhoea alveolaris or an ulcer in the rectum, and have been cured by a vaccine, it has been promptly assumed that all cases of rheumatoid arthritis are due to some germ or other, or to its toxin. But such evidence as this is no proof whatever that these easily remediable cases are similar or in any way allied to the chronic polyarticular inflammations of the synovial membranes and periarticular structures of the joints which we designate rheumatoid arthritis. No doubt many organisms, such as the tubercle bacillus, the gonococcus, the *Diplococcus intracellularis* of Weichselbaum, the pneumococcus, the influenza bacillus, the streptococcus and staphylococcus, not unfrequently set up a monarticular or a polyarticular arthritis, but such cases should be easily differentiated from rheumatoid arthritis. It is often marvellous how a case of gonorrhoeal rheumatism, especially if monarticular, can be rapidly cured by a few injections of a gonococcus vaccine. The worst case of suppuration of many joints which I have ever seen was due to the *Diplococcus intracellularis*.

Perhaps the most popular view of this affection in the present day is to look upon it as a toxic arthritis, due to one or more toxins produced by the intestinal flora, but no attempt has been made to show the nature of the toxin or its special affinity for the joints, or what the liver has been doing to allow it to pass its portals. The urine shows no evidence of intestinal putrefaction, and this vague hypothesis rests on no firmer foundation than the imagination of some writers. Such evidence is of no more value than that of the Irishman who, not wishing to reveal his ignorance, when hard-pressed on cross-examination acknowledged that he was perhaps putting a hypothetical case before his lordship and the jury, but when asked what is an hypothesis he replied that in faith he did not know, but he thought it was some part of a pig; so those gentlemen do not know what is the toxin, but they think it is some part of rheumatoid arthritis.

Osteo-arthritis is frequently used as a synonym for rheumatoid arthritis, but really the two conditions are diametrically opposed. The former usually occurs at a later age; the disease runs a very chronic course without any exacerbations. There is thickening of the synovial membranes, erosion of the cartilages, eburnation of the ends of the long bones and the formation of osteophytes. It usually affects many joints, but one hip-joint may be the only one involved. In this category must be included Heberden's nodes, and spondylitis deformans. It is true that the deposition of lime salts may take place in the final stages of rheumatoid arthritis, but this only occurs after the disease is over and the deformity left. It is Nature's clumsy method of effecting a cure.

RHEUMATOID ARTHRITIS.

By a process of elimination I am now in a position to define what I mean by rheumatoid arthritis. It is a low, chronic, polyarticular inflammation with frequent acute exacerbations. There is thickening of the synovial membranes and the periarticular fibrous tissue, with slight serous effusion into the joints. The muscles generally are wasted, irritable, and contracted; the deep reflexes are increased, and there is frequently neuritis, especially of the nerves supplying the joint structures. The joints are at first stiff, grating and painful on movement. In my experience the large joints, especially the knees, shoulders, and ankles, are first involved, and one joint only may be at first affected, especially if it had been previously injured. In this stage of the disease, if recognized and energetically treated, it rapidly disappears; but unfortunately the disease is not then usually diagnosed, but is called chronic or subacute rheumatism and treated accordingly; or if it be recognized, the patient is told that it will eventually cripple her, and nothing can be done except to try and delay its progress. If the disease be allowed to progress, as it practically always is, then you get the smaller joints affected, such as the wrist joints, carpus, metacarpo-phalangeal and first phalangeal joints, and the joints of the toes. You then get the characteristic fusiform swelling of the joints, and of course diagnosis can no longer be delayed. The further swelling of the joints is accompanied by increased effusion, erosion of the cartilages and rarefaction of the articular ends of the bones from absorption of the lime salts. From the disorganization of the joints and muscular contraction you get well-marked arthritis deformans. It is still possible to cure the disease, but not the deformity. If, however, you keep hunting after the germ and its toxin, the patient as well as her joints will become a hopeless wreck.

Etiology.

In dealing with the nomenclature I have to some extent referred to the etiology. As I believe with Newton that

we should admit no more causes of natural phenomena than such as are both true and sufficient to explain their appearance, I shall at once pass over the score of causes which have been set down in textbooks, and now state my own view as to the immediate cause of the disease, and afterwards lay bare the foundations of my belief. The proximate cause, in my opinion, is a mild chronic acidosis, which extracts the lime salts from the fibrous tissue, muscles, nerves, cartilages, and bones. I thus look upon this affection as a general disease, and the apparent localization in the joints is due to their structure and liability to injury. The extraction of the lime salts from the fibrous tissue causes it to swell and its vascularity increases; with the loss of the lime salts the muscles get into a condition of irritable weakness—they waste, readily contract, cramp frequently occurs, all the deep reflexes are exaggerated, and even a state of rhythmic tremor may be set up. There is not much lime in the nervous tissue, but its abstraction leads to a marked result; neuralgic pains readily occur, and even neuritis is easily established. The patients frequently complain that the pains are worse at night, and this is almost universally ascribed to the heat of the bedclothes, a regular *post hoc, propter hoc* argument, but when the patient is in bed in the daytime the pains subside, though "the heat of the bedclothes" remains the same. The condition really is that the blood is less alkaline at night; it is consequently capable of holding more lime, which is taken up from the tissues. The night pains can usually be obviated by a drachm of sodium bicarbonate and 15 grains of lime carbonate in a glass of milk at bedtime.

As more and more lime gets absorbed, you get swelling of the periarticular tissues and effusion into the joint; this serous effusion is often bloodstained, and inflammation in the joints soon attacks the cartilages, from which absorption of the lime salts takes place, followed by their erosion and thinning. The ends of the bones in the afflicted joints are attacked last, and absorption of the lime salts with rarefaction takes place; these parts of the bones are selected as they are easily damaged from use and become more vascular. The deposition of lime salts readily takes place in parts which are not functionating, and if you wish to cause absorption you must see that the function of the part is restored—for example, if you wish to decalcify rigid costal cartilages, you must not merely use decalcifying remedies, but you must also make the patient take respiratory exercises.

I frequently use decalcifying agents, but I am always quite alive to the danger of producing rheumatoid arthritis, and so such an untoward event has never occurred in my hands. Perhaps some of my followers will accomplish this, but it will not be without warning. If people were more careful in their diet they would not require so much physic.

Sex.

Women are much more liable to this disease than men. There is nothing in the constitution of a woman which should make her specially susceptible to this disease, but the very same conditions which make her less liable to arterio-sclerosis render her more prone than men to rheumatoid arthritis. In the poorer classes, where this disease abounds, she is badly nourished, lives on tea, bread-and-butter, and various carbohydrates, which readily undergo acid fermentation in the stomach; there is a poor supply of milk and other proteins. She gets very little lime and other alkalies, while she is liable to exhausting discharges, such as menorrhagia, leucorrhoea, excessive lactation, and mucous colitis, which rob the system of its lime. The leucorrhoea is usually due to the *Bacillus coli* or other organisms, but so far as the rheumatoid arthritis is concerned it is not the organisms, which are practically outside the body, but the loss of lime, which works the mischief. It most frequently occurs in women between the ages of 15 and 35, during their most active menstrual period. It does not usually start after the menopause, but if then already present other causes may maintain it in an active condition. The thyroid gland is more active in women than in men, and this leads to active calcium metabolism. It is essentially a disease of debility, and nutrition is readily affected by worry, anxiety, overwork, frequent childbearing, loss of blood, etc.

Among the associated conditions which to some extent stand in a causal relation must be specially mentioned an almost invariably dilated stomach with deficient motor action and obstinate constipation with occasional diarrhoea. For the maintenance of the motor function of the stomach and bowels a certain amount of calcium and potassium salts are necessary, while in these cases the supply of both is deficient. This leads to stagnation with acid fermentation, and the production especially of lactic and butyric acids; this tends to increase the excretion of lime rather than its absorption. The late Dr. O. T. Williams showed how the insoluble lime soaps damage the mucous membrane, setting up mucous colitis; but in this case they have the further deleterious effect of robbing the system of lime.

The amount of lime taken up from the intestinal tract when administered in the form of food or medicine is very variable. In many cases only a small fraction of that administered reaches the blood, while many individuals absorb it freely and excrete it as rapidly. Apart from individual peculiarities, this to a large extent depends on the form in which it is presented for absorption; the tribasic phosphate is a very fixed salt and almost entirely insoluble, yet I have heard a professor of therapeutics assert that this salt cures the toothache of pregnancy. Such child-like simplicity and therapeutic faith deserve a place in the Kingdom of Heaven if there be no retribution for culpable ignorance. The sulphate is rather insoluble but it is readily decomposed in the intestinal tract, and so presented to the mucous membrane in more assimilable forms; the same can be said for the carbonate. The chloride, the lactate, the glycerophosphate, and the iodide of calcium are all easily assimilable forms; the iodide is an especially active salt, but from its stimulating effect on the thyroid gland it is not always advisable in this disease. The oxalate of lime is very insoluble, though it may be decomposed in small amount by the hydrochloric acid of the stomach; the citrate of lime is fairly soluble, but the citric acid hastens elimination. Where sodium citrate is added to cow's milk it splits off the fixed lime from the casein, and thus lessens the density of the curd. When the stearin and palmitin of beef and mutton fats are decomposed by the lipase in the intestines, their saturated fatty acids readily form insoluble lime soaps; but, on the other hand, the oleate of calcium is easily assimilated.

Lime exists in two states in the blood—first, as a fixed albuminate of calcium, and, second, as free ionizable calcium; the amount in both states varies considerably, but especially in the latter. When the blood is very alkaline the fixed lime is fairly constant, but as the alkalinity increases the blood holds less free lime and part of the free ionizable calcium is thrown out into the tissues, or excreted by the bowels and kidneys.

The fixed lime in the form of large molecules of calcium albuminate increases the viscosity of the blood, lessens the capillary velocity, and diminishes transudation of albuminous fluids, hence where the blood is well charged with fixed lime you do not get any albuminuria; on the other hand, with diminished alkalinity and the presence of acid salts with an alkaline reaction the blood holds a considerable amount of lime, which is readily excreted by the bowels and kidneys, and leaves the blood ready to take up more lime from the tissues or alimentary tract. So long as the blood is more or less saturated with lime the fixed calcium remains constant, but where the acidosis is not completely saturated with lime or alkalis the fixed calcium may be split off from the albumen, and then you readily get transudation. Hence, in the early stages of rheumatoid arthritis the urine is usually free from albumen, but in the later stages or during acute exacerbations when the fixed lime is lessened you get albuminuria, and also effusion into the joints and tissues. Dr. Sydney Ringer made experiments on the swelling of laminaria when immersed in water, and he found that sodium and potassium chlorides retarded, but did not lessen, the amount of fluid taken up; on the other hand, even minute traces of the chloride or other soluble salt of calcium greatly and persistently restricted the swelling of laminaria. Among the causes of dropsy the presence of sodium chloride in excessive amount must be recognized; and in the treatment of this affection Widal and many others have recommended a salt-free diet; but I have shown that in many cases this is not enough; you

must to some extent replace the sodium salts in the tissues with calcium salts. In rheumatoid arthritis there is usually a deficient supply and excessive excretion, though, of course, the activity of the process is an ever-varying quantity.

Symptoms.

We have already referred to the dilatation of the stomach, deficient motor function, acid fermentation and intestinal stasis; when the latter is very marked and persistent you get pigmentation of the skin with dark lines round the eyes. The function of the liver and pancreas are impaired, and the patient is usually troubled with flatulence. There is anorexia, but very rarely vomiting. As was originally pointed out by Kent Spender, there is a moderate tachycardia, and this is associated with excessive function of the thyroid, which leads to excessive calcium metabolism, fibrillar tremor, myotatic irritability, and rather free action of the skin. There is general muscular wasting, muscular irritability and contraction, frequently spasm and cramp, and at later stages neuritis with atrophy of the interossei and muscles of the thumb with deformity of the hands. The neuritis and symmetry of this disease have led many to imagine that it is of nervous origin, but as Sir James Paget pointed out, the decay of a leaf is symmetrical without any nerves. The quadriceps extensor femoris and deltoid are frequently much wasted. The muscular wasting leads to weakness, fatigue, and weariness, but although there is usually general emaciation and malnutrition, the existence of the disease is quite consistent with the presence of a considerable amount of adipose tissue. There is a slight effusion into the joints, swelling of the periarticular tissue, and the joints become fusiform in shape, stiff, and tender. The skin over the joints becomes attenuated and glossy. All the deep reflexes are exaggerated except where the action is limited by the stiffness of the joints. There is often much general pain and tenderness from effusion into the sheaths of the muscles, and the presence of sarcolactic acid; these pains, as well as those of the joints, are worst at night. There are frequently acute exacerbations with intermittent pyrexia. At such times the affected parts feel hot, and there is rather profuse perspiration, increased muscular weakness, and general lassitude. At other times the extremities may be cold and somewhat livid, or the fingers may feel "dead and numb."

At a later stage a radiogram shows wasting of the cartilages and rarefaction of the articular ends of the bones; this leads to more or less irreparable deformity. The lungs are not affected; the muscle of the heart may be weak and irritable, and the blood pressure is low, but any valvular lesion which may be present is due to other causes, or may be induced in Nature's methods of cure. The brain is not involved, except so far as the irritability of the patient's temper may be considered evidence of such involvement. At any rate, the patient is never stupid nor mentally lethargic, though migraine is not uncommon; there is often slight anaemia. The urine is usually clear, amber, acid (except from the effects of treatment), deposits urates during febrile attacks, contains an excessive amount of lime and phosphates, occasionally a trace of indican, and a little albumen in the later stages.

Treatment.

The earlier the recognition of the disease the more successful the treatment. Our attention should be first directed to the *prima via*, the teeth should receive scrupulous attention and all sepsis should be eradicated; the acid fermentation in the stomach should be eliminated, and this is most readily accomplished by cutting off all saccharine and farinaceous articles of diet, and placing the patient for a few days on an abundance of red meat with plenty of hot water. Red meat produces ammonia, which neutralizes the sarcolactic acid in the muscles; then milk to which some sodium bicarbonate and chalk or lime water have been added, junket and cream. The sour milk craze in this disease has fizzled out. Afterwards green vegetables and farinaceous food, except oatmeal; a fair amount of fat should be given, especially olive oil or cod-liver oil; at least an ounce of one of these oils should be given every night at bedtime. Bacon gravy, fat bacon, cream, butter or margarine are valuable adjuncts, but beef and mutton fats had better be eschewed. The patient should take a liberal allowance of table salt with meals. All acids and acid fruits, rhubard, tomatoes and asparagus should be avoided. When saccharoses are considered permissible, glucose and honey are better than cane sugar or jams, but perhaps a little marmalade may be occasionally allowed. When the patient is improving, grapes, bananas, nuts, stewed prunes and figs may be allowed; saccharine is better than sugar, more especially if the urine has become alkaline under treatment, and tends to deposit phosphates. Regarding drink, there is nothing better than pure water, especially when hot, weak tea, milk and soda water (containing about 30 grains of sodium bicarbonate to the pint), plain barley water, and raisin tea. Avoid all sweet and acid drinks, wine and malt liquors. Regarding alcohol, I think the patient is better without any, but if for any particular reason a little is ordered it should be in the form of whisky, gin, brandy, sloe gin, or liqueur cognac.

To correct the acid fermentation and improve the motor function of the stomach a good combination consists of 30 grains of sodium bicarbonate, 10 grains of potassium bicarbonate, and 15 or 30 grains of aromatic chalk in a glass of milk about half an hour before meals, and a double dose at bedtime; often smaller doses suffice. An excellent stomachic of calcium chloride, hydrochloric acid, and minute doses of the perchloride of iron is very useful after meals; a small cholagogue pill should be regularly administered to keep the bowels open; for this purpose an excellent mixture can be made with the sulphate, bicarbonate, and salicylate of sodium and liquorice. The pancreas is also usually at fault, and to improve its action I often prescribe a capsule of holadin and bile salts about two hours after meals. In these cases the thyroid gland is usually too active, and so all preparations of iodine and thyroid should be avoided. Possibly suprarenal gland and pituitary extract might do good, as Dr. Blair Bell has shown that these secretions tend to retain the lime in the system, whereas the thyroid increases its elimination, but personally I do not care to prescribe such powerful drugs when milder remedies may suffice. It is imperative to get lime into the tissues and to lessen its elimination, but herein lies our difficulty, as no matter how much is administered by the mouth it may be as rapidly excreted as it is absorbed, and so none may reach the tissues; but on the other hand the acidosis in the blood may be taking lime from the tissues as well as from the intestinal tract. In order to get the lime into the tissues there must be a liberal oral supply, and the blood must be kept very alkaline. For this I prescribe freely chloride of sodium and potassium, sodium bicarbonate, chalk, lactate of lime, and calcium glycerophosphate. If it be desired to get calcium rapidly into the tissues it may be given in a very dilute form subcutaneously, say a pint of sterile normal saline solution with 0.05 per cent. of calcium chloride, and 3 per cent. of syrup of glucose. If the calcium chloride be administered hypodermically in a concentrated form, it may readily produce gangrene of the skin and adjacent tissues. Iron is best administered in the form of underdone red meat, and yolk of eggs; arsenic, potassium iodide, guaiacol, and a host of remedies commonly prescribed are worse than useless.

Leucorrhoea should be treated with injections, and any infection of the urinary tract should receive attention. Here vaccines will often prove useful, and the same may be said for pyorrhoea alveolaris.

General massage and the Aix douche improve nutrition, and are highly beneficial; the hot air and electric light baths applied to affected joints often give much relief, but can scarcely be looked upon as curative agents. When you have cured your patient you can send her or him to Egypt, Timbuctoo, or any health resort. Encourage the patient to take a fair amount of exercise short of fatigue when the disease has subsided, and to live a godly, righteous, and sober life in this present world.

THE late Dr. William Carter, formerly Professor of Materia Medica and Therapeutics at Liverpool University, left estate valued at £35,591.

A BILL has been introduced into the North Carolina State Legislature making it unlawful for any medical practitioner or other person to prescribe or recommend any drug or preparation without knowing its true nature and composition. The bill would also require the prescriber to make known the nature of the composition to the patient if requested.

The Harveian Lecture

ON

THE VARIOUS FORMS OF FIBROSITIS AND THEIR TREATMENT.

DELIVERED BEFORE THE HARVEIAN SOCIETY OF LONDON ON APRIL 10TH, 1913,

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ALLOW me to express my gratitude to the President and Council of this society for the honour conferred in asking me to deliver this lecture. I feel that some excuse is perhaps necessary in selecting for my subject one of the minor maladies, but it is one that has a very appreciable influence on the comfort and enjoyment of life, is very prevalent, especially in this country, and, in my opinion, is well worthy of more attention than it has hitherto received at the hands of the medical profession.

It happens to be a disease in the treatment of which I have had considerable experience for many years, and I therefore thought that the present would be a fitting occasion to lay before you the results of that experience in the treatment of this common and painful malady.

The affections that I am dealing with in this lecture are the more or less chronic affections which are generally labelled "rheumatic," but which undoubtedly are not the sequelae of acute rheumatism, and which are in no sense connected with that disease. Whereas acute rheumatism is more common in the first half of life, the various forms of chronic rheumatism are much more common in the second.

PATHOLOGY.

In the great majority of the cases of so-called chronic rheumatism, the pathological change is in the white fibrous tissue in various parts of the body, and to this condition the term "fibrositis" has been very aptly applied.

The essential pathological change in fibrositis is an inflammatory hyperplasia of the white fibrous tissue in various parts of the body, associated with exudation and proliferation of the connective tissue elements leading to swelling and thickening of the affected fibrous tissues. This condition may undergo absorption and so completely disappear, or, if not suitably treated, it may pass on to organization with the formation of nodules and patches of thickening.

The articular structures proper—synovial membrane, cartilage, and bone—are not primarily affected, but the parts implicated are the fibrous tissues of the joints, muscles, and bones, especially the aponeuroses and insertions of the muscles, the muscle sheaths in which the muscle spindles lie, the bursae, fasciae, the fibrous ligaments and capsules of the joints, and the periosteum. Such affections cause pain and stiffness in these structures, are especially apt to recur, and are commonly referred to as rheumatic or even gouty in their origin. This inflammatory hyperplasia of the fibrous tissues occurs in patches, and is started by exposure to wet or cold, by injury, or by some irritant, microbic or toxic, conveyed in the blood. The inflamed and swollen fibrous tissue is tender, painful on pressure or on movement, and can frequently be felt on palpation, or is evident by the consequent elevation of the skin. Sudden movement of the affected muscles generally causes excruciating pain, while the local pain on pressure is one of the most diagnostic features of these cases.

The indurations may be widespread, but generally are well defined, and vary in size from an eighth of an inch to one inch in diameter. They may be situated in the subcutaneous tissue, the muscles, tendons, aponeuroses, the capsules and ligaments of the joints, the bursae, the sheaths of the nerves, and periosteum. The pain is especially aggravated by any sudden movement of the muscles which compresses or stretches the affected fibrous tissues and the sensory nerve filaments.

The microbic causation of fibrositis is probably a rare occurrence, but Ware[1] has been able to demonstrate the presence of gonococci in the inflamed muscles of the posterior axillary fold secondary to a gonococcal arthritis of the shoulder-joint. In the great majority of cases the inflammatory hyperplasia is due to a toxaemia, exposure to cold, strains, etc.

A. Schmidt[2] has endeavoured to explain the pathology of muscular rheumatism by the assumption of a neuralgia of the sensitive muscle nerves due to a lesion of the posterior spinal roots, but he admits that in the only case in which he had the opportunity of examining the spinal cord the minutest microscopical examination failed to reveal any anatomical changes in the roots. Moreover, it is obvious from his paper that he confuses cases of acute or subacute rheumatism with fibrositis.

ETIOLOGY.

Local fibrositis may result from several causes, of which the following are the commonest:

1. *Cold, Damp, and Wet.*—In a very large number of cases the only assignable cause of the fibrositis is a history of exposure to cold and wet. Sometimes the attack comes on acutely a few hours after the exposure, as in many cases of lumbago, stiff neck, intercostal "rheumatism," and other forms of so-called muscular "rheumatism." At other times stiffness gradually develops after the exposure, and passes on to the condition of chronic fibrositis. The exposure may be due to draughts, remaining in wet clothes, lying or sitting on damp ground or some cold substance, or the simple advent of damp or cold weather. Sleeping in basement rooms to which ground air gains access is a common cause, and is entirely obviated by the building of houses on beds of concrete. A very common cause of lumbago from exposure to a local draught is sitting on a draughty privy or water-closet; this, no doubt, accounts for the prevalence of that affection in rural districts, combined with the constant strain of the lumbar muscles amongst so many agricultural labourers. Many persons are readily affected by the approach of rain and by a lowering of the barometric pressure. Longstreth states that the painful symptoms do not correspond to rain but to the fall of barometric pressure, and Stockman suggests that possibly the atmospheric changes may increase or lessen the lymph pressure in the body, and so increase or lessen the tension in the affected fibrous tissues.

2. *Extremes of Heat and Cold.*—Sudden and considerable variations in temperature constitute by no means an uncommon cause of a generalized fibrositis, which takes the form of so-called "muscular rheumatism," following on the resulting chill.

3. *Local Injuries.*—These are responsible for a large number of cases of local fibrositis. Traumatic fibrositis is a definite form, and is induced by sudden and severe strain on tendinous and ligamentous structures. Such a form may persist for a lengthened period, for whereas the slighter forms of muscular fibrositis, such as "stiff-neck" and mild forms of lumbago, are usually of brief duration, that which affects the tendinous and ligamentous structures may persist for weeks and even months. Golf produces a number of such injuries, the fibrous tissues of the muscles and their attachments to the arms and back being specially affected in this game. "Tennis elbow" is another instance of traumatic fibrositis.

4. *Absorption of Irritating Toxins from the Alimentary Tract.*—It has long been recognized that disorders of the alimentary tract may give rise to "rheumatic" pains. Oral sepsis is undoubtedly responsible for the development of some forms of chronic rheumatism, as likewise are flatulent dyspepsia, chronic constipation, colitis, etc. The aching in the joints and the lumbar region that occasionally occurs the day after a lengthy dinner, especially if several wines have been indulged in, is due to irritation of the fibrous tissues by the toxins absorbed from the intestinal tract, and which have been produced there by abnormal fermentation. This pain, whether in the joints or the lumbar region, which follows excessive indulgence at the table, is generally attributed to gout, and, as a rule, the champagne, claret, or port is blamed for it. I am convinced, however, that this articular or muscular pain has, in the great majority of cases, no relation whatever to gout, and that it is due to a

self-generated systemic poison owing to the inability of the gastro-intestinal tract to deal properly with the various articles introduced into it.

5. *Tonsillitis and Pharyngitis.*—The aching pains that occur in various parts of the body in connexion with these affections are well known, and are doubtless due to toxic absorption and consequent irritation of the fibrous tissues.

6. *Influenza.*—Many individuals are personally acquainted with the aches and even severe pains in the muscles, joints, and bones which accompany this disease. These are in all probability due to the fibrositis set up by the specific microbe or its toxin. It is not uncommon to find fibrous nodules and thickenings left as sequelae of this disease.

7. *Febricula.*—A "feverish cold" is generally accompanied by aching pains in the muscles, joints, and bones. The attack, which is sometimes described as a "rheumatic cold" or an "influenzal cold," is microbic in its origin, and the pains are no doubt due to irritation of the fibrous tissues by the microbe or its toxin.

Various Forms of Fibrositis.

The white fibrous tissues in practically any part of the body may be affected, but the liability is greater in certain situations, which will now be dealt with.

Muscular Rheumatism.

This affection is always a fibrositis. Any of the muscles may be affected. Affection of the muscles of the lumbar region constitutes one of the forms of lumbago; affection of the muscles of the neck constitutes stiff-neck; affection of the deltoid muscle constitutes "deltoid rheumatism"; affection of the intercostal muscles constitutes "intercostal rheumatism." The abdominal muscles may be affected, and such nodular fibrositis in these muscles may cause either continuous pain, or severe paroxysmal pain. Undoubtedly such cases have been mistaken for appendicitis, renal or biliary colic, abdominal adhesions, gastric ulcer, etc., and this I believe is the explanation of many laparotomies that have been performed with a negative result. The so-called "growing pains" of children are, in my opinion, due to fibrositis, since the healthy growth of a child should not be painful.

Muscular fibrositis of the shoulder and upper arm muscles is at times a very distressing malady, and so severe is the pain in the affected muscles that any attempt at passive movement causes an involuntary contraction in them, which contraction in its turn considerably augments the pain. The result is that under such conditions the shoulder-joint appears to be fixed, and gives the impression of the presence of firm adhesions within the joint. In some of these cases of brachial fibrositis the interference with sleep on account of a difficulty of securing an easy posture in bed, as well as the pain produced by each movement of the arm, are extremely trying to the patient.

In severe cases of brachial fibrositis the inflammatory condition may spread to the adjacent nerve sheaths, and so cause a secondary brachial neuritis. It is not uncommon for the tendinous attachments of the muscles to be especially affected, and I have seen several cases in which the fibrositis has been limited to the insertion of the deltoid, so that the pain has been entirely confined to that locality.

Fibrositis of the occipital and pericranial aponeuroses is a common form of headache, and one which is frequently overlooked. The indurations are most apt to occur in the retrocolic muscles, especially the trapezius, and in the temporal and other cranial aponeuroses. The attacks of headache are always associated with painful stiffness in the affected muscles. This form of fibrositis is especially due to the exposure to draughts through lack of covering to which this part of the body is necessarily subjected. I am frequently meeting with such cases of headache and fibrositis among those motorists who persist in riding in an open car with the front wind screen up, so that the neck and back of the head get the powerful back draught. I always advise such that it is far preferable in an open car to have the upper part of the wind screen raised or open, so as to face the wind and avoid the exposure of so vulnerable a part as the back of the neck and head to draught.

Lumbago.

This is a very typical form of fibrositis. It may be an affection of the fibrous elements of the lumbar muscles, but more commonly it starts as a localized affection of the insertions of the muscles in the vicinity of one or both of the sacro-iliac joints, since the fibrous attachments of the muscles to the back of the sacrum are especially liable to overstrain. It spreads by continuity of the fibrous tissue, as is manifested by its affecting the tendinous attachments of the neighbouring muscles, by its affecting the sacro-iliac joint itself, and by its often spreading through the joint and reaching the sheath of the sciatic nerve. This explains the very frequent association of some degree of sciatica with an attack of lumbago. In many cases of lumbago the extension of the inflammation to the sacro-iliac joint causes that synchondrosis to become loose, and so to be acutely painful on movement. The production of the pain of lumbago is usually sudden, the patient frequently ascribing it to a sudden strain or wrick, especially on rising in the morning; but although the production of the pain is generally sudden, yet the condition on which it depends has been gradually developed. A violent strain on the spinal ligaments following railway accidents and other injuries may set up a fibrositis with long-continued susceptibility to pain on any tension, a condition which I think is not infrequently ascribed to malingering.

Dupuytren's Contraction.

This is a localized fibrositis caused by habitual postural use of the hand. It is frequently ascribed to gout, but, according to my experience, the condition has no connexion with that disease. Certainly, I have never seen any gouty deposits in the thickened tissues, nor is the affection commoner amongst gouty subjects.

Fibrositis of the Plantar Fascia.

A fairly common form of localized fibrositis is that which affects the plantar fascia. This causes pain in the sole of the foot when the weight of the body is on it, and if not arrested is liable to lead to the development of flat-foot. The fibrositis is sometimes localized to the attachment of the fascia to the inner tubercle of the os calcis, and then constitutes one of the commonest forms of painful heel. If the inflammation persists at this point it is liable to cause a local periostitis and osteitis, resulting in the formation of a bony spur, which, if not removed, constitutes a permanently painful heel.

Fibrositis of Bursae.

A chronic fibrositis of bursae is fairly common, and especially occurs in connexion with the subacromial bursa. This condition, which explains the frequency of stiff and painful shoulders, is very apt to be mistaken for arthritis or fibrous ankylosis of the shoulder-joint, or for brachial neuritis. Severe pain as regards abduction and rotation are the chief symptoms, and the pain may be so severe as to prevent restful sleep. The pain is often felt at the insertion of the deltoid, and I believe that many cases of so-called dislodgement of the biceps tendon from its groove are cases of subacromial bursitis. Küster[3] in 1902 gave the first clear explanation of the mechanical importance of this bursa, which is the same as the so-called subdeltoid bursa. The other bursae which exist about the shoulder-joint are relatively unimportant, as inflammation in them is of but little mechanical importance.

Fibrositis of Joints.

Chronic fibrositis of the joints is most frequently met with in the knuckle-joints and finger-joints of those engaged in hard manual labour, especially when associated with damp surroundings. Pads upon the finger-joints constitute a chronic form of localized fibrositis, and have been thoroughly described by A. E. Garrod. They form excrescences which are almost confined to the dorsal aspects of the interphalangeal joints of the proximal row, and are only very rarely seen upon the terminal joints of the fingers. They are usually present upon the fingers of both hands, and vary in size from that of a split pea to that of the half of a hazel nut. Sometimes they are quite painless, but more often pain of various degrees of severity is complained of, especially when the fingers are flexed or if the lumps are knocked.

Patients suffering from these pads generally seek medical advice under the apprehension that they are the precursors or accompaniments of rheumatoid arthritis, or that they are due to chronic gout. There does not, however, appear to be any connexion between these pads and either rheumatoid arthritis or gout. There is, however, an intimate connexion between these pads and Dupuytren's contraction of the palmar fascia, and it is fairly common to see the two conditions together.

Fibrositis of the Subcutaneous Tissue.

A form of fibrositis to which Ralph Stockman[4] has recently drawn attention is a chronic subcutaneous fibrosis, which when it occurs in people with a large amount of subcutaneous fat is identical with the disease known as "adiposis dolorosa" (Dercum's disease). It consists in an irregularly spread, patchy, chronic inflammation of the subcutaneous connective tissue which involves the small peripheral nerves, so that the affected parts are painful on pressure, and are also subject to aching or pain from exercise, weather changes, indigestion, etc. These pains are usually designated as "rheumatic," and the condition is, in fact, one of so-called "chronic rheumatism." In the subjects of subcutaneous fibrosis the fat tends to form in more or less lumpy masses round the hypertrophied fibrous tissue. It is an exaggeration of this condition which constitutes the disease known as "adiposis dolorosa." The abdomen, flanks, hips, thighs, shoulders, and upper arms are in general the parts most affected.

Chronic Villous Synovitis.

Although, according to the strict interpretation of the term, this is not a form of fibrositis, yet it may be conveniently referred to here, as its correct treatment is similar to that of other chronic rheumatic conditions. It is a purely local condition and not a manifestation of a general disease, and is frequently described as "arthritis sicca." It usually occurs in the knee and is characterized by crepitus or creaking on movement and by pain and tenderness on use. The crepitus during movement of the joint is frequently unpleasantly audible to the patient, and is especially caused by going up or down stairs. The capsule and the ligaments of the joint are more or less relaxed and the synovial membrane is passively congested and loose. The crepitation on movement is due to the folds of the flabby congested membrane rubbing together; in other words, it is a true creaking and not a bony grating. If further relaxation of the synovial membrane results, hernial-like projections of the synovial fringe may be produced which are apt to cause a catching or locking of the joint when it is moved. In this class of cases the fluid in the joint is generally quite normal, although, if there be great irritation, some excess of it may form. The condition is very frequently mistaken for rheumatoid arthritis, but there is no erosion of cartilage and no eburnation of the ends of the bones, consequently bony grating can never be produced in such joints.

A valuable aid to the recognition of this condition, and to its differentiation from rheumatoid arthritis, is the careful auscultation of the joint, to which A. E. Garrod[5] has drawn useful attention. I have for many years practised this method of auscultation, and am thoroughly convinced of its great utility as an aid to diagnosis. The knee-joint should be slowly flexed and extended during the examination, and in this way the peculiar crackle or crepitus that is produced by the thickened and flabby synovial membrane is easily distinguished from the scrunch or grating sound that occurs in cases of rheumatoid arthritis, and which is due to abrasion or erosion of the cartilages.

General Treatment.

A saline aperient should always be given at the onset of an attack of acute fibrositis, and repeated as necessary. If the attack is a severe one, confinement to bed may be necessary, and it is important to recognize the beneficial influence of rest in such cases. For severe attacks of lumbago and intercostal rheumatism firm strapping with the brown-holland strapping plaster secures the necessary local rest of the affected muscles. In all cases of brachial fibrositis the arm should be carried in a sling and should be moved as little as possible during dressing and undressing.

Drugs.

In the treatment of the different forms of fibrositis salicylates are of little curative value, as they do not exercise the same specific action as in acute rheumatism. Aspirin is of decided use for the relief of pain in severe cases, but it should only be given with that object. It acts better than sodium salicylate, owing to the fact that the introduction of the acetyl radicle increases the analgesic action of the salicylic acid. It probably also exercises a beneficial effect in cases of abnormal intestinal fermentation. Perhaps the best method of administering this drug for the relief of pain consists in giving 10 grains of aspirin with 6 grains of pyramidon in a cachet every four hours. Potassium iodide is, in my experience, the most valuable drug in the treatment of fibrositis. It seems to exercise a direct effect in removing the hyperplasia and serous exudation in the fibrous tissues. It should always, if possible, be given in full doses of 10 or 12 grains, and should be combined with tonics, such as nux vomica or the compound glycerophosphate syrup. If the iodide produces severe symptoms of iodism, one of the organic iodine compounds may be tried. Of these I have found iodipin, in the form of tablets, extremely useful.

Fibrolysin.

This is a chemical combination of thiosinamin and sodium salicylate, for which the claim has been put forward that it has a softening effect upon all forms of pathological fibrous tissue. In a former paper[6] I reported on the use of it in a somewhat limited number of cases of fibrositis, and I then gave a somewhat guarded favourable opinion as to its being of use in properly selected cases. I now propose to lay before you the results of an extended experience of the use of this drug, an experience which, I may at once state, does not support the somewhat favourable opinion that I formerly expressed. I have obtained the results of its use in 83 cases of various forms of fibrositis, some of which I treated throughout, but in the majority of which I am indebted to careful reports furnished me by the various medical men who, on my advice, carried out the treatment. They were all carefully selected as cases likely to be favourably influenced by the use of fibrolysin. In 18 out of the 83 cases the use of the drug had to be discontinued, owing to the injections causing rise of temperature, malaise, nausea, headache, and, in some cases, palpitation, vertigo, tendency to syncope, severe general pains, and a purpuric rash. This leaves 65 cases in which a full course of forty injections of fibrolysin, together with massage of the affected parts, was employed. No good whatever resulted in 46 of the cases; in 11 of the cases there was some improvement, which was permanent in 10 of the cases and transient in 1; in 8 of the cases there was permanent cure. So that the numbers converted into percentages are:

No benefit	71 per cent.
Some improvement	17 ,,
Cured	12 ,,

In every one of the cases of rheumatoid arthritis and other forms of infective arthritis in which, after complete arrest of the arthritis, a full course of fibrolysin was used in the endeavour to reduce or remove the fibrous thickenings around the joints no improvement whatever resulted. Similarly in all the cases of Dupuytren's contraction of the palmar fascia that were treated no benefit resulted. The 8 cases that were cured comprised 4 of diffused or localized fibrositis with nodules, 3 of fibrous thickenings and adhesions around a single shoulder-joint, and 1 of severe thrombosis of both femoral and external iliac veins with thickening of the walls of the veins. In this last case complete absorption of the thrombi and of the thickenings of the venous walls resulted, but massage was not resorted to until after complete disappearance of the thrombi.

From these results it appears to me that fibrolysin has a very limited use, and I cannot avoid the inference that the claims that have been put forward for this preparation must be considered extravagant.

Local Treatment.

For the complete dispersal of the indurations in most cases of fibrositis, and certainly in the severer cases, local treatment must be adopted. This may best be considered

under the following headings: External Applications, Heat and Electrical Treatment, Massage and Exercises, Surgical Treatment.

External Applications.

In the early stages of an acute fibrositis hot fomentations are useful. Afterwards one of the best external applications in my experience is a mixture of equal parts of chloral hydrate, camphor, and menthol. These three substances form a liquid when well rubbed together. This liquid should be painted over the painful area, and then be gently rubbed in with the fingers. Some patients find the cold sensation produced by the menthol objectionable; in such cases the menthol may be omitted and equal parts of chloral hydrate and camphor employed, which also form a liquid when rubbed together. Another useful external application is to paint the painful area with tincture of iodine, and then to apply a hot linseed poultice or a very hot fomentation. The heat converts the iodine into vapour, which exercises an anodyne effect, and, probably by absorption, directly acts on the affected fibrous tissues. In the later stages the aconite, belladonna, and chloroform liniment applied on lint is frequently most beneficial. In cases of a very localized fibrositis counter-irritation is sometimes of great use, especially in the form of the thermo-cautery.

Heat and Electrical Treatment.

In localized forms of fibrositis, and especially where fibrous deposits occur—such as in lumbago, thickening of the ligamentous and fibrous structures surrounding or entering into the composition of joints, deposits in muscles, tendons, and tendon sheaths, and in chronic villous synovitis of the knees—the most effective form of local treatment that I am acquainted with is the employment of heat followed by ionization of the affected part. This treatment has a very remarkable effect in causing the absorption of thickened fibrous tissues. Heat increases the supply of arterial blood, and so causes a state of active congestion, stimulates leucocytosis and metabolism, lowers blood pressure, causes diaphoresis, relieves pain, and enhances the effect of the ionization that is to follow. If heat is to be applied to the entire body, the electric light cabinet bath is the most convenient form, but in the treatment of localized forms of fibrositis it is preferable to concentrate the heat on the affected part only, and I am confident that far better results are obtained from the employment of dry radiant heat than from the employment of heat alone. C. F. Bailey[7] considers that the ideal type of radiant heat should be as nearly as possible like sunlight, and should give a spectrum ranging from the ultra-red to the ultra-violet. This type of spectrum can apparently only be obtained from lamps of a very high candle power, such as the so-called leucodescent radiant heat apparatus, which consists of a single 500-candle power lamp in a funnel-shaped projector lined with a reflecting surface. The method of applying the heat is to sway the lamp slowly backwards and forwards over the affected part for about twenty minutes. It must be applied directly to the skin, and anything like a severe burning sensation should be obviated either by the temporary removal of the lamp or by brushing with the hand that part of the surface which is being treated. When the lamp is switched off, the part feels burning hot to the touch and the surface is red and mottled from vascular dilatation. If such radiant heat alone is used, it very definitely relieves pain, softens fibrous indurations, and causes improvement in joints and their surroundings as regards improved flexibility and reduction in size. These results are, however, considerably enhanced by subsequent ionization.

The exposure to heat should be immediately followed by ionization with iodine ions, which, in my experience, are more effective than other ions on account of their solvent action on fibrous thickenings and deposits. The iodine is introduced into the affected tissues from a 2 per cent. solution of lithium iodide to which sufficient liniment of iodine has been added to give the fluid a sherry colour and so ensure the presence of an excess of iodine. Pads of lint six-fold thick are soaked in the hot solution and applied to the part to be treated. A copper chain-mail electrode is then spread over the pad and bandaged on, leaving the connexion exposed, which is then attached to the negative pole. The positive pole is similarly connected to another pad soaked in a weak solution of common salt or of lithium carbonate. Another method, though not so efficacious, in my opinion, as the employment of lithium iodide, is to paint the skin of the affected part with iodine liniment and apply a pad soaked in a weak solution of lithium carbonate with the electrode connected with the negative pole, the positive being applied as before. The strength of the current that should be employed varies with individual patients, but should range from 15 to 40 milliampères. The ionization lasts for twenty minutes, and should be repeated daily if the skin will stand the treatment, otherwise it should be used on alternate days. Many cases improve very rapidly from the first, but in severe cases a course of daily applications for four weeks is required. While this ionization treatment is being carried out it is very important that the administration of potassium iodide by the mouth should be continued. As C. F. Bailey has pointed out, any iodine compounds lying in or circulating through the affected tissues are broken up by the current and locked up in the tissues temporarily, instead of being carried through the blood vessels and excreted. In addition nascent iodine ions are much more energetic than when they combine into soluble non-ionized salts; also the general migration of all kinds of ions, which takes place along the course of the current, may produce an effect of commotion in and stimulation of the tissues which is beneficial.

In cases of acute fibrositis, especially in acute lumbago and painful affections of the knees, shoulders, and elbows, it is advisable at the first two or three sittings to employ a 2 per cent. solution of sodium salicylate in place of the lithium iodide, in order to produce immediate relief of the severe pain. The salicyl ion is introduced into the painful region, and it is remarkable how rapidly it will relieve the pain, just as salicyl ionization rapidly relieves the pain of severe neuralgia and some forms of neuritis.

In cases of chronic villous synovitis of the knees this combined heat and ionization treatment is most effective, and in all cases gives the most satisfactory results.

Doubt has sometimes been expressed as to whether actual penetration of ions into the affected tissues occurs during ionization, but the experiments of N. S. Finzi[8] conclusively prove that certain ions penetrate into the tissues of joints and the subcutaneous tissues. In addition it has been shown that strychnine applied at the positive pole, or potassium cyanide at the negative, rapidly kill an animal under experiment with all the characteristic symptoms of the respective toxic substances. Moreover, it is quite easy to demonstrate the presence of iodine or lithium in the urine after respective ionization with those substances.

Some observers have stated that the chlorine ion is quite as efficacious as the iodine ion, and is less caustic, but my experience is that the iodine ion is more effective, and I have never met with any bad effects from its causticity.

It is a matter of common experience that the improvement started by a short course of heat and ionization treatment will continue to progress for some days after the treatment is left off. This is probably explained by the ions forming with the colloids of the animal tissues a sort of condenser, which is discharged by degrees. The ions therefore remain for a certain length of time at the place of their introduction, so that this region remains for several days as a kind of local medicated bath the therapeutic power of which is considerable. It may therefore be claimed that ionic medication is founded on a truly scientific basis, in that the ions exert a direct therapeutic effect, that they are for a time localized in the affected tissues, and that they are afterwards slowly and gradually liberated.

In cases of lumbago the static wave current may be substituted for ionization. F. H. Humphris[9] records excellent results with this form of treatment. It produces a local vibratory effect, and muscular contraction takes place, so that the wave current tends to remove the infiltration by squeezing out the serous exudation from the affected tissues, and thereby relieving the pain. From my experience of a number of cases that I have had successfully treated, I can thoroughly recommend the

employment of local heat followed by the use of the static wave current.

Massage and Exercises.

Massage is very useful in the later stages, but it should only be employed when it causes no pain. The manipulations should be very gentle at first, so as to promote removal of exudation and to relieve the tension. Afterwards more vigorous massage is most efficacious in dispersing the indurations and fibrous thickenings, and in removing the stiffness of the affected parts. General massage should not be employed, but the tender and affected areas should be carefully marked out for treatment. Massage should not be used to affected joints, but only around them, so as to improve the circulation in their neighbourhood. I have frequently seen the most disastrous results to joints from their over-zealous manipulation by masseurs and masseuses, as such treatment only increases the inflammation and bruises the synovial fringes. The same remarks apply with equal force to acute affections of the bursae and tendon sheaths, and to fibrositis of nerve sheaths until the acute affection has entirely subsided.

During the very painful stage of muscular rheumatism as complete rest as possible of the affected muscles must be enforced, but later on exercises of the muscles are of great benefit. Either light dumb-bells or Indian clubs, of from 1 lb. to 2 lb. in weight, should be employed, and such movements are to be performed as will bring the affected muscles into action. The exercises should be performed on rising in the morning, and should not occupy more than from ten to fifteen minutes. After the exercises a cold or tepid bath should be taken, and the skin be briskly rubbed with a rough towel.

In cases of chronic subcutaneous fibrosis in very fat people (adiposis dolorosa) massage is quite ineffective, and often unbearably painful. In such cases it is essential, first of all, to get rid of the superabundant fat by means of a strict diet, and by the administration of thyroid gland.

Surgical Treatment.

In a few cases, generally of long standing, where the fibrous nodules do not yield to the measures above mentioned, and where by implication of, or pressure upon, nerves they cause persistent pain, excision may be necessary.

Adhesions in the subacromial bursa have sometimes been treated by breaking them down under an anaesthetic, but the procedure is a dangerous one, as the normal joint structures are more easily torn than the dense adhesions in the bursa, and the brachial plexus and axillary vein are liable to be damaged. Another objection is that when the adhesions alone are ruptured there is a tendency for them to re-form.

Spa Treatment.

This is most useful in protracted cases of fibrositis, especially when the waters are strongly radio-active. Undoubtedly the radio-active emanations of such waters are powerful adjuncts in the dispersion of the thickenings and deposits.

Diet.

Unlike gout, no special dieting is required in these affections. Moderation should be the keynote of all prone to the various forms of fibrositis, and especially should they avoid foods which their experience has taught them to be apt to produce gastro-intestinal fermentation. It has become of late years a fashionable craze to attribute many of these forms of "chronic rheumatism" to uric acid, but I am firmly convinced that that harmless by-product of the human economy plays no part whatever in the development of the various forms of chronic rheumatism or fibrositis.

Underclothing.

With regard to the underclothing that should be worn by rheumatic individuals, I must confess that I am a convert to the view that porous linen underwear is the most suitable. It allows of the free evaporation of perspiration, and so prevents a more or less sodden garment from remaining in contact with the skin, which so frequently happens with those who wear woollen underclothing. I am convinced that in the latter case such sodden garments are a frequent cause of many of the forms of fibrositis. Some individuals find that in winter linen underwear is too cold, and in such cases a thin silk vest may be worn over the linen. This will be found to constitute a thoroughly warm, comfortable, and safe form of underwear.

Residence.

The most suitable soil is gravel, sandstone, or rock, at a fair elevation, and with good subsoil drainage. Houses should be built on a bed of concrete, so as to prevent entirely the entrance of ground air. Residence on a clay soil should be avoided if possible, but in my experience the worst soil of all is a shallow gravel soil in a cup or depression of clay, which allows the subsoil water to accumulate and frequently to reach close to the surface. Many of the gravel sites lauded by house agents are veritable traps for the development of fibrositis.

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A STUDY OF THE TYPES OF ORGANISM IN A SERIES OF BONE AND JOINT TUBERCULOSIS OF CHILDREN.

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THE British Royal Commission justified its existence when it showed, beyond all manner of doubt, that human tuberculosis was in a certain proportion of cases due to infection with the bovine bacillus. It has remained for individual observers to investigate local groups of tuberculosis, and to expose the relative types of bacilli present.

I wish to record some investigations of a study of 70 cases of bone and joint tubercle.

Technique.

The preliminary necessity was to obtain in pure culture the actual organism which produced the lesion of an individual case; as it is exceedingly difficult, and in the majority of cases impossible, to cultivate the tubercle bacillus directly from an active lesion, guinea-pigs were used as intermediaries. The diseased tissue, obtained in each case by operation, was inoculated into the animal subcutaneously or in bulk. For a period of six weeks the ainmal was permitted to live; at the end of that time the disease was extensive in the glands and the internal organs, and from them the organism was easily cultivated.

There are various suitable media, and of such Dorset's[3] egg medium is undoubtedly the best; it is a preparation of egg-yolk and water, sloped, and inspissated in tubes. Upon the surface of the medium portions of the diseased organs are rubbed, and it is of advantage sometimes to actually wound the surface of the medium. The inoculated tubes, sealed with paraffin to prevent evaporation and infection, are incubated. In fourteen days a growth is apparent.

With the growth of the organism the first step is completed. The second stage consists in identifying the organism, and this identification is at once proceeded with. There can be no doubt that it is possible to distinguish absolutely between the human and bovine types of the bacilli. Cultural and morphological tests are uncertain in their interpretation.

A bacillus which grows rapidly and profusely upon egg medium is in all probability human, yet there exists a margin of doubt, which deprives the test of any absolute value, and the same applies to morphological distinctions. A short, squat bacillus staining uniformly suggests a bovine origin, but occasionally human bacilli possess identical characters.

1. There are three tests which give trustworthy evidence of the type of bacilli. In 1905 Theobald Smith[9] formulated a test, which depended upon the changes produced in glycerine bouillon by the growth of the tubercle bacillus. The glycerine bouillon is rendered faintly acid, and the

acidity is carefully estimated by titration; 0.05 per cent. is a suitable degree. The tubercle grows as a pellicle upon the surface of the medium, and at intervals of ten days small quantities of the fluid are removed and the acidity estimated. In the case of the human bacillus the degree of acidity progressively increases; in the instance of the bovine bacillus the acidity diminishes and the medium may even become alkaline. The test is reliable, but it is difficult to perform, and mixed infection of the medium is very hard to prevent; should such occur the experiment is useless.

2. The second reliable test is based upon the fact that glycerine exerts a stimulating effect upon the growth of the human bacillus, while it has a distinctly retardative influence on the bovine bacillus (Cobbet).[2] The glycerine is incorporated with Dorset's egg medium (4 per cent.), and upon this medium the organism under investigation is grown. Control inoculations are made with fully identified human and bovine bacilli. By the rate and degree of growth of the bacillus its identity is established. The bovine organism grows scantily, if at all; the human bacillus spreads rapidly and profusely.

3. The simplest and yet the most reliable test is that usually termed the animal test. It is based upon the fact that the bovine bacillus is especially virulent for certain animals, more especially the calf and the rabbit. If a rabbit of an average weight of 2,000 grams is inoculated intravenously with a small amount (0.01 mg.) of the suspected organism, one of two results will follow. If the bacillus is human the animal will show little change, its weight will remain constant or increase, and if at the end of six months it is killed and examined the tuberculous disease will be found to be limited to a few chronic lesions in the internal organs. The result of inoculation of a bovine bacillus is very different. After inoculation the animal rapidly emaciates and loses weight; in six weeks it is usually dead, and a *post-mortem* examination shows an acute miliary tuberculosis. The test is absolutely reliable, and the smaller the quantity of bacilli introduced the greater the difference (Oehlecker).[3]

Investigation of Cases.

In each individual case a systematic plan was followed.* The diseased tissue was inoculated into a guinea-pig, and from the infected animal the organism was grown in the manner I have described. The identity of the organism was established by submitting it to a series of five tests, and observations were made upon (1) the cultural characters, (2) the morphological appearances, (3) the distinctive growth upon glycerine egg medium, (4) the reaction upon glycerine bouillon, (5) the result of rabbit inoculation. From the result of these tests a definite result was come to as regards the identity of the bacillus. Tests 1, 2, 3 and 5 were carried out in every case; Test 4 was performed only in eleven instances.

Results.

On every occasion the diseased material was obtained by operation. The proportion of bone and joint cases in the series was practically equal—39 were instances of joint disease, 31 of bone disease. The age incidence was absolutely limited to 12 years and under. The cases were patients of the Edinburgh Sick Children's Hospital, and therefore may be said to have been drawn from a comparatively localized area. For two reasons the series may be considered unique—the age limit and the localized sources from which the material was obtained.

Small groups of bone and joint tubercle have been investigated by different observers.

The British Royal Commission[4] examined 14 cases, with one exception adults; 13 of the series were due to the human bacillus; 1 case was found to contain both human and the bovine bacilli. Park and Krumweide[7] investigated a series of 17 cases; 6 of these were children under 5 years of age, 10 were children from 5 to 16 years old, and there was a single adult case. In every instance a human bacillus was the causative factor.

Kossel, Weber, and Heuss[5] published the results of an examination of 36 cases; 12 were obtained from adults, and each contained the human bacillus; 24 were cases of children, ages ranging from 1 to 16 years, and one of these contained the bovine bacillus. Henschen, Jundell and Svensson[4] investigated a small series of 3 cases; they were adults, and all owed their origin to the human bacillus. Burckhardt[1] has recently investigated a series of cases of surgical tuberculosis; the group included 29 cases of bone and joint tubercle. He found that 3 cases of joint tuberculosis contained the bovine bacillus. The respective ages were 11, 19, and 14 years.

I have to announce results which are very different from any of the above. Out of a total of 70 investigations, in 41 instances the bovine bacillus was present, in 26 cases the human bacillus occurred, and from the remaining 3 cases both human and bovine types were isolated.

These results are so striking that one naturally seeks for factors which may help to explain their uniqueness, and the factors which have most bearing are those of age, family history, and milk supply.

Age.

The age incidence has been absolutely limited to 12 years and under. This limitation is all-important, for in such an age group there are certain special distinctions.

1. The feeding is of a special type—milk, human or cow's, is the staple article of diet.

2. The lymphatic and absorptive arrangements of the abdomen are peculiar—a fact which is evidence of the high percentage of occurrences of abdominal tuberculosis (4 per cent., Thomson[10]).

Bearing these facts in mind, there is much to be learnt from a study of the age tables of the series. The facts are best illustrated by dividing the age period into groups: Group 1, to 3 years; Group 2, from 3 to 6 years; Group 3, from 6 to 12 years.

In the first group the questions of milk feeding and unusual lymphatic arrangements have their strongest bearings. Twenty-eight cases were included in the first series; twenty-three of them were bovine and five were human. In the second and third series the proportions were more equal. In group No. 2 ten were due to the human bacillus, nine to the bovine bacillus. In group No. 3 eleven were human, while nine were bovine.

TABLE I.—*Type of Bacillus in 67 Children in Relation to Age.*

Age Period.	Human Organism.	Bovine Organism.
To 3 years	5	23
From 3 to 6 years ...	10	9
From 6 to 12 years ...	11	9

Family History.

As a matter of routine, the family history was noted in each case investigated. In 21 instances there was a definite history of pulmonary tuberculosis having occurred in some member of the family in which the child lived, and in 50 per cent. of these cases the child was actually living in contact with a consumptive.

The practical bearing is more evident when it is stated that out of the 21 above mentioned cases 15, or 71 per cent., were due to the bacillus of human tuberculosis.

In 52 cases there was definitely stated to be no family history of tubercle; 43 of these were bovine in origin, while only 9, or 17 per cent., were human. The difference is very striking, and the figures of the first group are explained by direct infection of the child from the consumptive patient with whom it stayed.

TABLE II.—*Types of Bacillus in Relation to Family History.*

	Human Bacillus.	Bovine Bacillus.	Percentage of Human.
History of pulmonary tubercle in family	15	6	71
No history of tubercle in family	9	43	17

Milk Supply.

Practically speaking, the bovine bacillus is introduced into the body by a single route—that of infection from the

* For full details of experiments see the *Journal of Experimental Medicine*, vol. xvi, No. 4, 1912, p. 432.

alimentary tract, and the medium by which it is introduced is infected milk. As far as possible observations were noted of the source of milk supply in each of the above cases; 25 cases were nourished in infancy upon human milk, 41 were entirely fed upon cow's milk; in 3 instances the source of origin was doubtful.

Of the 25 cases brought up on human milk, in only 6 cases was the bovine bacillus found. The remaining 19 were infected with the human type. In the second group, those nourished upon cow's milk, out of a total of 41, no less than 37 were due to infection with the bovine bacillus. The remaining 4 were human. In the complete series there were 4 children less than 1 year old. All these children were nourished upon cow's milk, and in every case the bovine bacillus was the organism present.

TABLE III.—*Types of Organism in Relation to Milk.*

Source of Milk.	Human Bacillus.	Bovine Bacillus.
Human milk	19	6
Cow's milk...	4	37

It is interesting to note that in no instance was any attempt made to sterilize or pasteurize the milk.

CONCLUSIONS.

1. It is possible by certain tests to distinguish between human and bovine types of tubercle bacilli.
2. A considerable proportion of bone and joint tubercle of children in Edinburgh is due to infection by the bovine bacillus.
3. The bovine bacillus is introduced into the body by the drinking of infected milk.
4. A considerable proportion of the cases of tubercle due to the human bacillus are the result of the direct infection of the child by a consumptive co-resident.

My thanks are due to Mr. Stiles and Dr. James Ritchie for materials and help. The McCunn and the Carnegie Trustees have provided financial assistance, and I wish to acknowledge my indebtedness to them.

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THE International Congress on the prevention of the deterioration and the adulteration of foodstuffs will be held at Ghent on August 1st, 2nd, and 3rd. M. Henry Carton de Wiart, Minister of Justice, is an honorary president, and the presidents are the Burgomasters of Brussels, Ghent, Antwerp, and Liége. The work of the congress will be divided into four sections: Chemistry; hygiene; consumption, education and popularization; legislation. Among the subjects on the programme of discussions are the following: Protection of food substances against dirt; Regulation of the production and of the trade in table waters (mineral, aërated, etc.), as well as of ice and water sold to consumers; Is it necessary to institute official methods for the analysis of foods? Regulation of the production and trade of milk and its by-products destined for human food; To what degree can the incorporation of antiseptics be tolerated in foodstuffs? The basis of organization of a service of inspection in the trade and in the manufacture of foodstuffs; The conditions of places of production (factories) of foodstuffs and retail shops. Rules for the washing of glasses in public-houses. Reports to be presented should be in the hands of the secretary before May 1st, 1913. In connexion with the congress there will be an exposition of foodstuffs and the methods by which they are prepared for consumption, and by which they are adulterated. The milk supply will occupy a prominent place in the exhibition, well-kept and badly-kept farms, and the right and wrong method of transport, and so forth, being shown. Communications should be addressed to M. Antony Neuckens, Secretary of the Congress and the Exhibition, Hôtel de Ville, Brussels.

CLINICAL DEMONSTRATION OF AN OPERATION FOR PROLAPSUS UTERI COMPLICATED BY HYPERTROPHY OF THE CERVIX.*

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WHEN prolapse is complicated by hypertrophy of the cervix, it is usual to begin the operation for its relief by amputating a suitable portion of the cervix, and suturing the resulting wound in the customary way. Then an anterior colporrhaphy is performed, a fresh incision being made separate from that required for the amputation of the cervix. If the anterior vaginal wall is removed at all freely the two incisions approach one another very closely, a poor and narrow bridge of sound tissue being left between them. Further, the amputation of the cervix tends to shorten the anterior vaginal wall; and thus, when the colporrhaphy has been completed, the cervix still points downwards and forwards, and the uterus is left in a

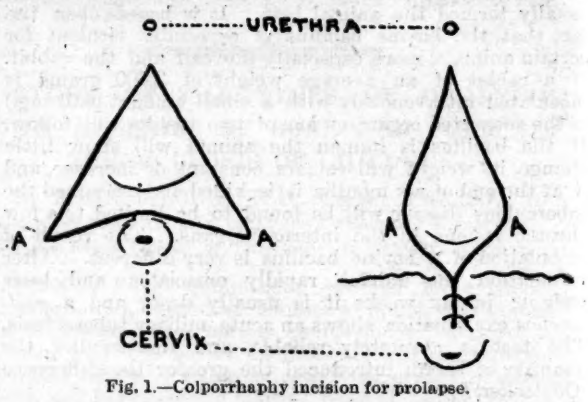

Fig. 1.—Colporrhaphy incision for prolapse.

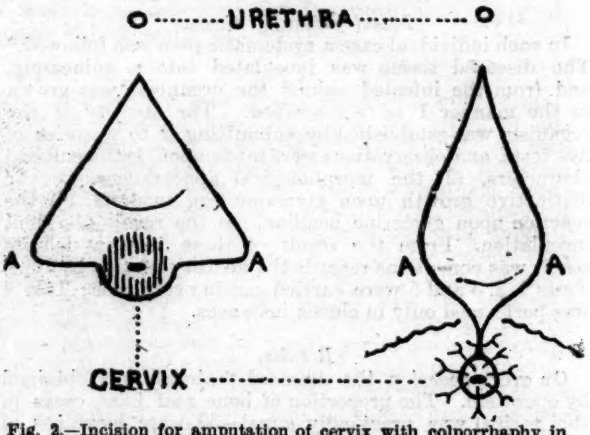

Fig. 2.—Incision for amputation of cervix with colporrhaphy in prolapse complicated by hypertrophy of cervix.

position of retroversion which is very favourable to the recurrence of prolapse.

For some time I have been using a single incision for both the amputation of the cervix and the anterior colporrhaphy, and have found the results more satisfactory than those obtained by doing the operations separately one after the other.

In order to make clear this little modification in technique it is necessary to explain once more how I treat ordinary cases of prolapse in which the cervix is not hypertrophied. The anterior colporrhaphy is done so that the wound is broad above and narrows to a point near the urethral orifice. The piece of vaginal wall removed is, roughly, an equilateral triangle with its base touching the cervix and its apex near the opening of the urethra. The easiest way of making the incision is to pull down the cervix with a vulsellum and then to pick up with forceps two points about 3 in. apart, one directly to the right, the other directly to the left of the

*Given in the Post-Graduate Course at the Manchester Royal Infirmary, March, 1913.

os uteri. The vaginal wall is put on the stretch and is cut through between the tips of the instruments. It is then easily separated from the bladder and parametria, and a triangular portion is cut away. This extension of the wound into the lateral vaginal fornices exposes the connective tissue on either side of the cervix—the right and left parametria. When the wound is closed from side to side, the tissues which previously lay at the sides of the cervix are united in the middle line in front of the cervix, which is thus pushed back towards the hollow of the sacrum. This manœuvre tilts the fundus forward, so that the uterus becomes anteverted. The suturing begins at the cervical end of the wound, for, as the stitches are tied one after another, this end of the incision, with the cervix behind it, disappears from sight; and, if the incision has been broad enough, cannot be seen again. The closing of the lower part of the wound corrects the cystocele, and thus anterior colporrhaphy, done as above described, remedies both the retroversion and the cystocele, whose combination is the characteristic feature of classical prolapse. Interrupted sutures are used, for if a continuous suture, or even a series of mattress sutures, be employed, the incision is shortened, and thus the cervix is pulled downwards and forwards. This spoils the operation, whose special aim is to push the cervix upwards and backwards. To complete the treatment the vaginal outlet is restored to its normal size by repairing the perineum, the upper part of the posterior vaginal wall being left alone.

The modification of this operation which I have been using in cases of prolapse complicated by considerable hypertrophy of the cervix is as follows: The cervical canal is dilated, and a circular incision is made round the cervix with a knife. The vaginal wall (also the bladder, if necessary) is then snipped free with scissors and is pushed back from the cervix, which is next deeply split into anterior and posterior lips. These lips are then amputated so as to leave the uterus about 3 in. long, and a few sutures are inserted in the stump of the cervix to control bleeding.

The vaginal wall is next incised for an inch or so on either side of the circular wound already made, the new cuts extending directly to the right and to the left. The anterior vaginal wall is now separated from the parametric tissues and from the bladder, and a triangular portion, with its apex near the urethral orifice, is cut away.

In closing the wound thus made the stump of the cervix is stitched into the posterior part of the incision. The first suture brings together the central point of the posterior margin of the vaginal incision and the mucosa lining the posterior wall of the cervical canal. The second and third sutures unite vaginal wall and vaginal mucosa right and left of the first; and so on, until the sides of the vaginal incision come together in front of the stump of the cervix. By this time the newly constructed *os* is beginning to disappear upwards and backwards. The lateral edges of the vaginal wound, with the subjacent connective tissue, are brought together in the middle line from behind forwards, and the line of suture disappears from view as the later sutures are tied and the urethral end of the incision is reached. Finally, the perineum is repaired as before.

This method of operating has been found convenient both when the elongation of the cervix is mainly supravaginal and also when the vaginal portion is chiefly involved. It is not necessary to discuss the various causes of hypertrophy of the cervix; but, before leaving this subject, I should like to express complete scepticism as to the existence of the so-called tensile elongation which was supposed to be produced by the dragging upon the cervix of prolapsed vaginal walls. Such a change might possibly occur after the uterus has been fixed to the abdominal wall by a ventrifixation. But if the uterus is not fixed above, how can it be lengthened by pulling on it below? The theory of tensile elongation seems to be a relic of the times when the uterus was thought to be held up by the broad and round ligaments. Now that the cervix is well known to be the most firmly attached portion of the organ, the theory of tensile elongation may surely be allowed to drop gently into oblivion. All the forms of cervical hypertrophy and elongation can easily be explained without its assistance.

A "SUPPURATING" BRANCHIAL CYST.

BY

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AND

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LEOMINSTER.

THE following case is, perhaps, sufficiently rare to be worth recording:

Mrs. B., a young married woman, was seen by my partner, Dr. C. A. Robinson, towards the end of 1911, when about five months advanced in her first pregnancy. She then had a small swelling on the left side of the neck, beneath the sterno-mastoid muscle, which was of recent appearance. Deciding that the swelling was neither malignant nor tuberculous, Dr. Robinson advised that it should be left alone for the time. It did not fluctuate, and was thought to be a small fibrous or fatty tumour. As pregnancy advanced it gradually increased in size.

The patient was confined early in April, 1912. Later in the month we saw her together. The swelling was then large, occupying the upper half of the neck, and extending well forwards into the anterior triangle and also backwards into the posterior triangle beneath the sterno-mastoid muscle. It fluctuated very distinctly and was not tender. The patient gave no history of enlarged glands or carious teeth, but there was a history of tuberculous disease in her family. With an exploring syringe thin turbid fluid was found. An attempt to drain the cavity at its lower end, by an incision under local anaesthesia at the posterior border of the sterno-mastoid, proved unsatisfactory.

On May 5th, 1912, under an anaesthetic, the former incision was enlarged, after another incision had been made along the posterior border of the sterno-mastoid, near its upper end; a large amount of thin turbid fluid was evacuated, and a good sized drainage tube passed through from one opening to the other. As the amount of discharge diminished the tube was gradually shortened, being left in at the lower end, as the upper incision soon healed. When, however, the tube was removed it was found that a reaccumulation of fluid occurred, and it was clear that the cavity had not been closing up inside to the extent supposed.

On June 2nd the patient was again anaesthetized; the old incisions were reopened and the intervening tissues slit up on a director along the posterior edge of the sterno-mastoid, thus laying the cavity completely open. On digital exploration the cavity was found to extend far forwards into the anterior triangle of the neck and upwards nearly to the mastoid process. Its lining wall was perfectly smooth, with no suggestion of granulation tissue. There was no sign of a connexion with the cervical spine (caries) nor any trace of broken-down gland tissue. The cavity was swabbed clean and packed with iodoform gauze. It was at this stage that we suspected the condition might be a suppurating cyst (possibly branchial), as the diagnosis of retro-pharyngeal abscess or abscess due to a breaking-down tuberculous gland found no support at this operation, and the smoothness of the wall of the cyst was suggestive. The wound was dressed daily for some time, but granulation tissue was not readily formed. With a view to destroying the lining membrane, iodized phenol was applied. This was successful as far as the anterior (and larger) portion of the cyst was concerned, as it gradually filled up completely.

The upper part of the cyst did not heal in like manner, in spite of careful packing with gauze, and thus a sinus was left, 3 in. long, passing upwards along the posterior border of the sterno-mastoid. This sinus was drained by a small tube and was repeatedly treated with iodized phenol, but did not heal; removal of the tube at once resulted in accumulation of thin purulent fluid.

The patient was loth to undergo another operation and went on in this state for several months. Finally she consented, and the third operation was done on February 4th, 1913. She was then about five months pregnant (a second time). A solution of methylene blue in hydrogen peroxide was first injected into the sinus, so as to stain the whole cavity and any side tracks which might otherwise have been overlooked. On slitting up the sinus it was found to lead into a small cavity, the wall of which consisted of dense fibrous tissue; the lining membrane was greyish and irregular with a granular surface. The wall of the cavity and sinus, with a good deal of surrounding scar tissue, was dissected out almost completely. Part of the fibrous wall which was closely adherent to the internal jugular vein was left. The cavity was packed with iodoform gauze, and the latter, soaked in iodoform and glycerine emulsion, was used for the subsequent dressings. The patient stood the operation well The cavity filled up remarkably quickly. Two or three small portions of lining membrane which had been left behind had to be touched with iodized phenol, which destroyed them successfully.

Healing was complete one month after operation. A piece of the tissue removed was sent for microscopical examination to the Clinical Research Association, and the following is the report:

We agree that this specimen is a suppurating branchial cyst or dermoid. It is lined by epidermis, and shows much leucocytic infiltration beneath the lining membrane, and in the

surrounding tissues. There are the usual masses of lymphoid tissue associated with it. There is no evidence of tubercle or new growth.

Even if, at the second operation, we had definitely known the nature of the case, it would have been practically impossible to dissect out the wall of the cyst, owing to the size of the latter, and the fact that it extended forwards deeply into the anterior triangle, so as to be almost in contact with the pharynx. Therefore the treatment adopted was probably the best in the circumstances, even although a further operation was necessary to complete the cure.

There was no obvious cause why the cyst should suddenly enlarge and "suppurate" (the fluid was not true pus), unless the fact of pregnancy occurring had any bearing on the matter.

The report of the Clinical Research Association, together with our knowledge of the anatomical relations and the nature of its contents, confirm us in the view that this was a branchial and not a dermoid cyst.

TWO CASES OF PENETRATING WOUND OF THE HEART TREATED BY OPERATION.

BY

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IT has been my lot to have the opportunity of operating on a penetrating wound of the heart on two separate occasions within such a short space of time as three months; I am therefore happy to be able to place before my colleagues the details of such an uncommon experience in the hope that they may prove useful to some and interesting at any rate to others.

CASE I.—*Penetrating Wound of the Left Ventricle: Operation Two and a Half Hours after Injury: Complete Recovery.*

Whilst acting as Resident Surgeon at San Fernando Hospital, Trinidad, B.W.I., on October 19th, 1912, I was hurriedly summoned, about 3.15 p.m. to see a case just brought in and reported to be dying. I found the patient to be a well-nourished coloured boy, aged 14, suffering from severe shock and haemorrhage apparently caused by a small stab on the left side of the chest.

History.

The following history of the wound was obtained: About 1.30 p.m. on that day he was in the street just near his house playing at "rounders" with his friends, when, on stooping hurriedly to pick up the ball, the handle of an ice-picker (an instrument similar to the large blade of an ordinary penknife fitted on to a wooden handle about 4 or 5 in. long) which he had in his left coat pocket, pressed hard against the front of his left thigh, thus driving the blade into his chest. On rising he felt some sort of pain in his chest, and to his surprise saw the ice-picker securely stuck in his side. This he forcibly withdrew, and for a few minutes felt none the worse, but, as he was bleeding from the wound, he hurried to his house to remove his blood-stained clothing. The pain over his heart now became very severe, and he could breathe only with difficulty, and, as his condition seemed to be rapidly getting worse, he was put into a cab and quickly brought to the hospital, where he arrived as before mentioned in a moribund condition about one and three-quarter hours after the accident.

State on Examination.

He was cold and collapsed, with large beads of perspiration on his forehead, and the pulse could hardly be felt at the wrist. There was acute dyspnoea, and he was extremely restless, and insisted on lying on his left side, as he felt he would die if made to lie on his back. The stab was a small vertical penetrating wound about one-third of an inch long, situated between the fifth and sixth ribs on the left side of the chest, about one inch within the nipple line, and extended in an upward and backward direction, but with a probe no opening into the chest wall could be discovered. The area of cardiac dullness was definitely increased, but the heart sounds could be heard fairly distinctly. There was no haemorrhage from the wound.

Diagnosis.

The position and direction of the wound, the severe shock and signs of internal haemorrhage, the increased area of cardiac dullness, the intense dyspnoea, and the absence of haemoptysis and cough, all pointed to an injury of the heart. Hot water bottles were quickly procured, and a warm saline enema with 15 drops of adrenalin given, while strychnine gr. $\frac{1}{15}$ and adrenalin ♏vj were injected hypodermically, and the patient was put to lie on his left side, with his head low. I also gave instructions to get the operation theatre and all necessaries ready as quickly as possible in case there should be no improvement in his condition.

Operation.

About 3.50 p.m., as the patient showed no signs of improvement and was, in fact, fast sinking, I decided on operating at once. An intravenous infusion of normal saline with 10 drops of adrenalin was given, but the fluid flowed extremely slowly and only about ʒ ij could be infused altogether, this, no doubt, being due to the failing circulation. The area around the stab was infiltrated with about ʒ ij of a solution of cocaine and adrenalin in normal saline (cocaine gr. j, adrenalin ♏ x, normal saline ʒ iv) and the wound prolonged upwards and downwards. The opening into the thorax between the fourth and fifth ribs now became clearly evident, and a probe which was inserted was seen to move with the heart-beats, thus confirming the diagnosis. As the patient was now having great pain and seemed very distressed, Dr. Greaves, assistant surgeon to the hospital, administered some chloroform, but after a few minutes respiration ceased and the pulse could no longer be felt. Artificial respiration was immediately resorted to, a capsule of amyl nitrite given as an inhalation, and an injection of strychnine and digitalis given hypodermically. The case now seemed quite hopeless, but after about three minutes voluntary respiratory movements could again be detected. I therefore hurriedly continued the operation, and exposed the fourth and fifth ribs, and with a pair of rib scissors cut away their costal cartilages. At this stage the patient became very restless, and seemed to be in great pain, necessitating the administration of a little ether by the open method. The pleural cavity was rapidly exposed, and a quantity of clots of bright red blood escaped with every movement of respiration, and for a time neither the pericardium nor the lung could be seen. I quickly removed the clots and swabbed out the cavity as far as possible. The pale, collapsed left lung now came into view in the upper part of the wound, and was hurriedly examined, but no injury was found. I then pulled up the pericardium with a pair of Spencer Wells forceps, and at once saw a small hole, through which bright arterial blood was slowly pumping.

This opening was immediately enlarged sufficiently to allow of a thorough examination of the heart, large clots were removed from the pericardial cavity and the apex of the heart was seized with a pair of Spencer Wells forceps and pulled half out of the thorax, when a vertical penetrating wound of the left ventricle about ½ in. long was seen near the interventricular septum about half-way between the apex and the aorta—pumping bright arterial blood with every contraction of the left ventricle.

I hurriedly stitched this with some very fine silk by pulling the heart well out of the thorax with the forceps, thus steadying it sufficiently to allow the stitching, but on relaxing the heart once more the pumping was noticed to be still going on. The stitches had been too tightly inserted, and had cut through the muscle of the left ventricle, making the opening larger than before. I therefore removed these stitches and used rather thicker silk, pulling less tightly and taking great pains that the stitches should not enter the ventricular cavity for fear of thrombus formation. It was necessary to insert five interrupted sutures before the haemorrhage could be checked. During this procedure, which lasted quite twenty-five minutes, the anaesthetist noticed that the patient's pulse was very much stronger and he was taking the ether well. The removal of the blood from the pericardial cavity, and the stimulation of the heart by the forceps and stitching had evidently markedly improved the heart beats.

It is interesting to note here that whilst the heart was being pulled on to enable the stitches to be inserted, the beats gradually diminished and weakened, but immediately returned to the normal on being relaxed into the thorax.

As soon as I had satisfied myself that the wound was securely sutured and there was no more danger of haemorrhage, the pericardial cavity was thoroughly irrigated with normal saline and all clots removed, and the opening into the pericardium was stitched with catgut. The pleural cavity was then also thoroughly irrigated and all clots removed, and the pleura and pectoral muscles

stitched with silk across the gap formed by the removal of the fourth and fifth costal cartilages. The skin incision was then brought together with silkworm gut sutures (no drainage tube or gauze being left in), the dressing applied, and the patient hastily returned to his bed and laid flat on his back.

Progress.

The patient's condition had definitely improved after the operation, but the dyspnoea was still urgent and he was experiencing great pain over the heart, which had to be relieved by hypodermics of morphine at intervals. Saline ʒ x and adrenalin ♏ v were also given per rectum hourly for four hours and then two-hourly throughout the night, and he was able to take small quantities of warm milk and brandy at short intervals. The following are notes of the further progress of the case:

October 20th (the day following the operation). He was positively better; respirations 36, pulse 148 and regular. The dyspnoea was much lessened by propping with a head-rest, and the pain relieved with hypodermics of morphine and an icebag, which latter was kept over the heart continuously for the next five or six days.

October 22nd. There was distinct pericarditis of the dry type, which gradually spread over the whole cardiac area, the heart sounds being at no time muffled. The pneumothorax on the left side caused by the collapse of that lung at the time of operation persisted until about October 27th, after which there was some dullness behind, probably due to a small pleural effusion. Slight pleural friction could be heard for a few days after the operation.

October 26th. The skin stitches were removed and the wound had almost healed.

October 30th. The patient seemed altogether out of danger, and he was allowed to take a good meal. Temperature 98.4°, pulse 96, respirations 24. The heart sounds were perfectly clear and the pericarditis had quite disappeared. About 5 p.m. on this day he was suddenly seized with acute abdominal pain over the right side of the abdomen, nausea, vomiting, and collapse, and there was no pulse at the right wrist, the right hand feeling quite numbed. An icebag was kept over the abdomen and heart, and morphine, strychnine, and digitalis given hypodermically. About 9 p.m. the pulse was appreciable at the elbow and he was resting quietly.

October 31st. On this morning the pulse at the right wrist could not only be felt but was definitely stronger than that at the left wrist, and his condition was still serious. The nausea and vomiting continued throughout the day, and the pain seemed to become localized over the right kidney, and on November 1st the urine was found markedly albuminous, but no red blood corpuscles were found on microscopical examination.

November 3rd. On this day the pulses were about equal and the patient seemed comparatively well, but the albuminuria was still marked and continued for some weeks. Embolism of the right radial and renal arteries seems to be the only satisfactory explanation of the above symptoms, caused no doubt by the dislodging of emboli from a clot over the wound in the left ventricle probably brought about by a full stomach after the first heavy meal.

November 7th. His condition gradually improved, but by this date the temperature had become definitely septic, and the left base was explored; no fluid was found, but the pleura felt very much thickened.

November 10th. The patient complained for the first time of a swelling over the site of an intramuscular injection of quinine given on October 22nd, and on incision a fairly large abscess, deep down in the muscles of the thigh, was opened and drained.

Result.

By November 18th the abscess wound had healed and the patient was rapidly gaining strength, and on December 7th he was discharged from hospital as cured. I am much indebted to Dr. Turpin, resident surgeon of the hospital, who kindly supplied me with his notes of the case from November 12th (when I was transferred to Port of Spain Hospital) to the time of the patient's discharge from hospital.

I had an opportunity of seeing the patient on December 17th, and found his condition as follows: He was well nourished and showed no symptoms of cardiac trouble; there was no palpitation, pain, or dyspnoea, and he was able to walk about without any discomfort. (I had advised him not to attempt any running or violent exercise for a few months.) The scar had been replaced by a keloid; the apex beat was over the sixth rib in the nipple line and the space between the excised costal cartilages was not visible on inspection, the distance between the cut ends being only about ½ in. The mitral, aortic, and pulmonary sounds were quite clear and no murmur could be heard. On percussion the area of cardiac dullness was very little, if at all, increased. The lungs seemed normal, except for a slight impairment at the left base behind, probably due to some thickened pleura.

On March 3rd, 1913, the patient again came under my observation, and I am happy to be now able to report his "complete recovery." He looks well, and has obviously put on a considerable amount of weight since last I saw him. The apex beat is in the fifth interspace, well within the nipple line. The area of cardiac dullness seems quite normal, and the aortic, pulmonary, and mitral sounds are perfectly clear and distinct. The pulse is 92, regular, and of good tension. The urine still contains a trace of albumen.

He has been attending school since January, and assures me that he is now able to run at top speed, and walk up and down hill with very little discomfort, though he thinks he is not yet able to do quite as much as he could before the accident.

CASE II.—*Penetrating Wound of Right Ventricle: Operation Five Days after Injury: Death.*

A. M., a well-developed coloured boy, aged 15, was admitted at 4.35 p.m. on January 1st, 1913, into the Colonial Hospital, Port of Spain, Trinidad, B.W.I., by Dr. Proctor, Assistant Surgeon to the Hospital. The history obtained was that he had stabbed himself with a knife during an altercation with his father about half an hour previously, since when he had been bleeding profusely from the wound. The patient remained during the next five days under the care of Dr. Proctor, who has been kind enough to supply me with the following notes.

State on Admission.

The patient was cold and collapsed, and sweating profusely, there being no pulse at the wrist. There was a small bleeding punctured wound over the third left costal cartilage near the sternum extending backwards and downwards and slightly inwards for about an inch. This was carefully probed, but no opening into the chest wall could be made out. The heart sounds were feeble, but there were no murmurs, and the area of cardiac dullness was not increased. The lungs were normal.

A mixture of ether, strychnine, and ammonia was administered at short intervals, and about 2 pints of normal saline with 10 minims of adrenalin given two hourly per rectum, and about 1 pint of normal saline infused under the breasts. The wound was dressed and firm pressure applied, but as the haemorrhage continued, the area around was infiltrated with a solution of cocaine and adrenalin, and the stab wound enlarged, but no bleeding point could be found; however, after tightly packing the cavity with gauze the haemorrhage was checked.

By 9 p.m. the patient's condition had slightly improved, and the pulse was now perceptible at the wrist. On the next day (January 2nd) he seemed much better, and had a fairly good pulse—there had been no further haemorrhage.

Progress.

On January 3rd and 4th the improvement continued and the patient seemed quite comfortable. The temperature had remained normal since after admission, but on the evening of the 4th it registered 100° F.

On January 5th there were a few crepitations at the left base and some indefinite signs over the left lung in front; the heart seemed normal. The patient now felt comparatively well and was found out of bed on several occasions, though persistently warned that he must on no account leave his bed.

On the morning of January 6th some secondary haemorrhage occurred from the wound, which had to be repacked with gauze wrung out of adrenalin, and for the first time since admission the area of cardiac dullness was noticed to be definitely increased. There was also acute pain over the pericardium, and the pulse had become weak and rapid. Normal saline and adrenalin were given per rectum two-hourly, and strychnine and digitalis injected hypodermically.

This day, about 1.30 p.m., he was reported as having got suddenly worse, and I was called to see him. I found him restless, cold, collapsed, and sweating, with a running pulse at the wrist, and suffering from acute dyspnoea of a panting nature. The area of cardiac dullness extended from the third to the eighth rib, and there was definite pleuro-pericardial friction near the wound on the left side. There were crepitations at both bases, but no signs of fluid. There was no external haemorrhage going on.

Diagnosis.

From the direction of the wound, the sudden increase of the area of cardiac dullness, and the restless collapsed condition of the patient, I concluded that there must have been a penetrating wound of the heart of a valvular nature which had closed down shortly after the injury owing to the feeble contractions of the heart brought about by the extreme loss of blood, most of which had drained out of the pericardial sac and through the external wound. As the patient recovered, however, and the cardiac contractions became more forcible, some secondary haemorrhage occurred from the stab wound in the heart (probably brought about by the patient's exertion in getting in and out of bed), but as the external wound was now closed, all the blood remained in the pericardial cavity, thus causing the symptoms which were now present. In the circumstances, and as the patient was rapidly growing worse, I decided on operating at once, with a view of stitching the wound in the heart and arresting the haemorrhage, this seeming to give the only possible chance of recovery.

Operation.

About 3 p.m. the patient was brought to the operating theatre in a wheel chair and placed on the table in a semi-recumbent position. The whole area around the wound had been thoroughly infiltrated with a solution of cocaine and adrenalin (½ per cent. of each) in normal saline solution, about twenty-five minutes previously.

An incision about 4½ in. long was now made, starting from the second left costal cartilage going through the stab wound in an outward and downward direction and ending about the sixth rib within the nipple line, thus exposing the third, fourth, and fifth costal cartilages and the intercostal muscles in connexion with them. A careful examination now revealed a punctured horizontal wound, about ¾ in. in breath, between the fourth and fifth left costal cartilages near the sternum, which, on probing, was found to pass in a backward, downward, and slightly inward direction for a distance of about 1½ in. to 2 in., the probe moving up and down with the heart beats, which could be distinctly felt. On removal of the probe, a great quantity of dark venous blood immediately welled up from below. The diagnosis of a punctured wound of the heart having been now definitely confirmed, the operation was continued.

The fourth and fifth left costal cartilages were completely exposed, the intercostal muscles attached to them above and below separated, the pleura freed from their under surfaces, and with a pair of rib shears the cartilages were cut away sufficiently to allow of a complete examination of the pericardium and heart. At this stage the patient became very anxious and restless, and insisted on having an anaesthetic. Ether (by the open method) was therefore administered, and after about four minutes the operation was proceeded with and the pleura incised. There was an immediate rush of air into the pleural cavity as the left lung collapsed into the upper part of the thorax, exposing an extremely distended pericardial sac occupying the greater part of the left side of the chest. The pericardium was found extremely thickened and inflamed, and was incised for about 3½ in., allowing a quantity of dark blood to escape from the pericardial cavity, which was quickly swabbed out, when some fairly rapid venous oozing was noticed to be going on. There was well-marked pericarditis over the visceral pericardium, and the heart muscle was felt to be much softer than normal, probably due to myocarditis.

The left ventricle was now thoroughly examined, but no wound could be discovered, and as the direction of the stab and the venous condition of the blood pointed to a wound of either the right ventricle or right auricle, it became necessary to make as complete an examination of these compartments as possible. The apex of the heart was, therefore, carefully seized with a pair of Spencer Wells forceps and an attempt made to pull the heart out sufficiently to allow of this examination, but this proved impossible, as the tissue was very soft and yielded to the slightest pressure or pull. A silk suture was then passed through the apex of the heart and a further attempt made to pull it out by this means, but this also proved unsuccessful, as the silk cut through the muscle very easily, setting up a fairly smart haemorrhage, which, however, was quickly controlled by means of three interrupted sutures. As the haemorrhage, however, still continued from the stab wound, some very hot saline was poured over the heart, but this too failed to have any effect. By this time the patient's condition was very grave, and all attempts at getting at the source of the haemorrhage had perforce to be abandoned. An intravenous saline infusion was at once started and the heart beats seemed to improve for a while, the pericardium and pleura being meanwhile stitched with catgut and the pectoral and skin incision brought together with interrupted silkworm-gut sutures. Before the stitching had been completed, however, the patient expired.

Post-mortem Examination.

On the next day a *post-mortem* examination was held, and, as anticipated, a punctured horizontal valvular wound, about ¼ in. long, of the right ventricle about half-way between the apex and base of the heart was found penetrating into the ventricular cavity. The stab had gone through the chest wall directly into the pericardial sac without penetrating the pleura, and there was a fair amount of extravasated blood beneath the sternum along its whole length. The lungs showed some congestion of the bases and there were some old pleuritic adhesions on both sides. The other organs seemed normal.

Conclusions.

In the light of the experience gained from these two cases, I venture to put forward the following conclusions and suggestions:

1. A great many cases of penetrating wounds of the heart might easily escape recognition if too much reliance be placed on the failure of the probe to enter the thoracic cavity; but when it is borne in mind that a stab wound (made often with the *thin* blade of a knife) in that position usually has to traverse several layers of muscles, the fibres of which run in various directions, it can easily be conceived how difficult it would be to detect the opening into the chest by means of a probe. I think that all such wounds in the vicinity of the heart which give rise to symptoms of shock and collapse (even in the absence of other signs, such as an increase of the area of cardiac dullness, etc.) should be immediately enlarged and the thoracic walls sufficiently exposed for a thorough examination for a possible wound of entry, which, if found, would necessitate an immediate operation.

2. It is not usually known that the proportion of recoveries amongst the 124 cases recorded of operations of suture of the heart after injury is as high as 40 per cent. (vide Thomson and Miles, *Manual of Surgery*, 1909); there seems little doubt, therefore, that the proper treatment for all such cases rests with the surgeon and not with the physician, who up to now holds such strict monopoly of the chest and its contents.

3. The choice of suture—that is, catgut or silk—for the heart wound seems to me of paramount importance, and it is strange that such little attention is paid to it in the various textbooks. My former esteemed professor, Mr. Waring of St. Bartholomew's Hospital, for instance, recommends in his *Manual of Operative Surgery* interrupted sutures of catgut, whilst in the *Manual of Surgery*, by Thomson and Miles, 1909, "interrupted sutures of fine silk or catgut" are recommended. As to the use of ordinary catgut, I feel quite certain that it is unsafe, as it is too elastic and does not hold sufficiently long to ensure firm union between the edges of a muscle which is continually contracting and retracting. Iodized or chromic catgut, however, which lasts a great deal longer, may, I think, be used with safety, but I very much prefer, and can see no reasonable objection to, the use of thin silk applied not too tightly. Excellent results are obtained by the use of such silk in abdominal operations in which sepsis can certainly not be excluded, and I feel sure that the great power of absorption of septic matter possessed by the peritoneum is also possessed to the same degree by the pericardium. Should the wound be an obviously septic one, I would, of course, prefer chromicized or iodized catgut.

4. The selection of the ribs to be removed seems to me also an important consideration. Complete exposure of the pericardium and heart can easily be obtained by removing the fourth and fifth costal cartilages—instead of the fifth and sixth, or fourth, fifth, and sixth as recommended by some—thus leaving the sixth rib in position as a support to the heart when the patient is in the erect position.

5. I note that most writers lay much stress on the necessity of trying to avoid opening the pleural cavity—no doubt for fear of causing a pneumothorax. In both my cases the pleural cavity was opened and a pneumothorax caused, and I must confess that, in spite of their very grave condition at the time of operation, their symptoms were not aggravated by this procedure. My first case shows how quickly and completely such

a pneumothorax can be recovered from. On the other hand, there are two distinct advantages in opening the pleural cavity. In the first place, owing to the collapse of the lung in the upper part of the thorax, the pericardium and heart are more completely exposed, and the operation thereby much facilitated; and, secondly, it permits of a thorough examination and cleansing of the pleural cavity from all blood clots, which one can never exclude with certainty, the pleura being in most cases wounded at the same time as the pericardium.

6. As regards the after-treatment, in addition to the usual treatment for haemorrhage an icebag kept over the heart continuously and hypodermics of morphine are extremely useful adjuncts for allaying the distress and pain. Complete rest in bed for at least three weeks after the injury must be thoroughly enforced for fear of embolism.

7. With regard to the "incision," I note that the trap-door method first used and described by Parozzani in Italy is recommended by some. This consists in making a horizontal incision along the fourth interspace dividing the superficial structures and the pleura, and a second incision vertical to this, dividing also the fifth, sixth, seventh, eighth, and ninth ribs, thus forming a trap door the hinges of which are the rib cartilages. I can see no necessity for such a radical procedure. The ordinary straightforward incision gives ample room, which could be further increased if necessary by making transverse incisions at right angles to it as suggested by Waring.

In conclusion, I have to thank the Surgeon-General (Dr. H. L. Clare) for his kind permission for the publication of this report.

THE NASCENT IODINE TREATMENT OF LUPUS NASI.

BY P. W. BEDFORD, M.B., CH.B.,
FORMERLY HOUSE-PHYSICIAN TO THE SALOP INFIRMARY.

AN article appeared in the BRITISH MEDICAL JOURNAL of March 23rd, 1912, describing Dr. Pfannenstill's method of treating lupus and laryngeal tuberculosis by means of nascent iodine. As the results obtained in those instances were so satisfactory as compared with other methods of treatment, it was thought that it might with advantage be employed in a case that had hitherto resisted treatment. The patient selected was a definitely tuberculous girl 12 years of age, who in addition to lupus nasi had tuberculous kyphosis and scoliosis of nine years' duration, and had also at one time suffered from a tuberculous ulcer on the wrist which had healed rapidly under tuberculin treatment. Further, she had reacted strongly to the von Pirquet and the subcutaneous tuberculin tests.

These details are recorded because when Dr. Pfannenstill's report was first published the point was raised whether the cases cured by him were actually tuberculous and not syphilitic.

In this case, then, there was no doubt as to the diagnosis, for though Wassermann's test was not applied, there was no evidence obtainable that the lesion was syphilitic.

When the nascent iodine treatment was first instituted, she had been under the influence of that form of tuberculin known as B.E. for a period of six months, having begun with a dose of $\frac{1}{10000}$ mg. hypodermically, and had attained to so large a dose as $\frac{1}{4}$ mg. without, however, its having exerted any appreciable effect upon the course of the disease. The technique employed in this instance was slightly modified, chiefly in the direction of simplification, as follows:

1. Instead of two solutions, only one was used; it consisted of 1 pint of a 3 per cent. solution of 10 volume hydrogen peroxide, to which had been added 1 oz. of acetic acid (*B.P.*).

2. The solution was applied hourly instead of every few minutes.

3. A spray was employed to make certain of attacking that portion of the disease that lay within the nasal cavity.

4. A "nosebag" of lint was extemporized to keep the gauze and gauze plugs in position.

5. Poultices were applied to remove the crusts before beginning the treatment, and were also resorted to at intervals during the course.

After treatment for a fortnight the patient was obviously much improved both in her local condition and in her general health. Up to this point the tuberculin injections were still being employed; these were now discontinued, and it was noted that during a period of one week the disease remained stationary. The injections were accordingly resumed, and benefit again began to accrue.

From this time onward the patient made steady progress until, eight weeks from the commencement of the treatment, the diseased surface had completely healed over with soft, smooth scar tissue, and the cure was complete.

It was thought advisable, however, to continue the administration of the sodium iodide and the tuberculin for a few days longer; but instead of the peroxide solution an application consisting of linimentum camphorae ammoniatum, with the addition of some tinctura capsici, was used locally as a counter-irritant. The peroxide was discontinued because it was considered probable that, the patch having healed, the solution was not being brought into actual contact with the disease should it be lying deeper. The sodium iodide, which was given in doses of 7½ grains by the mouth every four hours, did not produce any symptoms of iodism, nor was the latent phthisis aggravated by the treatment.

The patient, on being discharged, was instructed to report herself at once should the disease show any signs of fresh activity, but up to the present time—that is, two months later—this has not occurred.

The question that naturally suggests itself in this case is: Was the cure due to the nascent iodine treatment alone or to its use in conjunction with tuberculin?

On the one hand is the fact that six months' treatment by means of tuberculin alone had no effect upon the disease, which, on the contrary, continued to spread. And, on the other hand, when the tuberculin was discontinued, the disease remained stationary.

A reasonable explanation would be that the hydrogen peroxide merely acted as a counter-irritant, causing a local increase in amount of the antibodies produced by the tuberculin, whilst the iodide helped by exerting its usual beneficent influence on a strumous condition. In support of this contention may be cited the manner in which tuberculous glands often melt away under tuberculin injections combined with the local application of suction cups.

Whatever the explanation may be, the result was so eminently successful, both as regards cure and cosmetic effect, that the nascent iodine treatment of lupus calls for a wider publicity and a greater usage than it appears to have gained in this country.

I am indebted to Dr. H. Willoughby Gardner, Senior Physician of the Salop Infirmary, for his kind permission to publish the notes of this case.

THE Berliner Auskunfts- und Fürsorgestellen (Organization for Inquiry and Care), under the direction of Geheimrat Pütter, of the Charité Hospital, is one of the most beneficent institutions for the poor sick inhabitants of Berlin. Aid is given to people suffering from lung diseases, cancer, and to inebriates. It is particularly difficult to assist the latter and their families, as the authorities have very little power in such cases. Legally a drunkard can only be taken to the workhouse if he is so much addicted to drink and loafing that he is neither able to support himself nor those dependent on him and if public charity has to be called upon. As long as a drunkard is doing some work, he he treating his family ever so ill, no legal proceedings can be taken against him, and even the police are powerless unless some actual mischance has occurred. In cases like this the organization exerts its influence. Only a small percentage are cured of their drinking habits and brought back to regular work, but in about 50 per cent. of all cases the efforts to improve the impoverished circumstances of the families have been successful. Of the 1,277 cases of drunkenness which in 1912 became known to the organization, 60 were under the age of 30, 497 between 30 and 50, and 275 over 50 years old. The age of 445 could not be ascertained. Only 3 out of 1,277 were women.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF PAROXYSMAL HAEMOGLOBINURIA.

A BOY aged 13 complained of feeling cold and shivering for several hours. On the next day there was headache and discoloration of the urine. On the third day he came under observation. He was well nourished, of high colour, and complained of slight headache. The pulse (90) was of normal volume and tension; the temperature was normal. The right kidney seemed slightly tender but not enlarged, the left could not be felt. He was passing a normal quantity of deep red-brown urine. He had had two previous attacks of a similar kind two years and three months earlier respectively. The urine on standing deposited much mucus, and became almost clear above and of a dull claret colour. The specific gravity was 1022; it was strongly acid and exhibited on boiling one-sixth albumen. The deposit on microscopical examination showed abundant uric acid crystals, but no red corpuscles or renal casts. Seven days after the onset the urine became normal in colour and entirely free from albumen.

Reading. E. W. SQUIRE, M.B., B.S.Lond.

ANTISTREPTOCOCCAL SERUM IN APPENDICITIS.

THE patient in the following case, a man aged 35, had complained for eighteen months of pain in the abdomen. It was aggravated by food, and pointed towards gastric or duodenal ulcer, for which the case had been treated by three previous medical attendants.

On January 5th, 1913, he was seized at 4.30 a.m. with violent pain in the abdomen and sickness. The abdomen was rigid, the liver dullness absent, and the patient's forehead covered with perspiration. There were also symptoms of collapse. In view of the previous history perforation of a gastric or duodenal ulcer suggested itself.

A surgeon was called in by me, and he thought it possible the mischief was above the umbilicus, and accordingly made his incision above the umbilicus. No trouble being found there, he extended his incision. The mischief was found in the appendix, which had perforated, and had quite a pint of pus lying in its neighbourhood.

The appendix was removed, the pus swabbed out, and drains put in the right flank and end of the incision. The temperature remained high, and reached 101.6° on January 19th. On January 27th fluid was noted in the right pleura. Thinking the fluid would probably become purulent, I arranged with the surgeon to come down and resect a rib. However, by February 1st the fluid had disappeared, but the temperature still remained up, being 101.2° on the evening of that day, and running up to 102.8° at 4 p.m. on February 2nd.

On February 4th his condition was very serious, and the surgeon was of opinion the man would die. On February 5th I gave 10 c.cm. of antistreptococcus serum, and repeated the injection next day. The effect was remarkable, the temperature falling to 97.2° and remaining below normal for fifteen days.

On February 20th the temperature again rose to 99.4°, running up, the next day, to 100.2°, and the chest was filling up with fluid. The serum was immediately used again, with the same favourable result—a gradual drop of the temperature. The patient has since made a complete recovery and has gone away for a change.

Pinner. H. J. HILDIGE, M.D.

AN antivivisection bill which was recently before the New York State Senate has been thrown out, the judiciary committee refusing to report on it.

THE Greenwich Borough Council has decided to purchase the freehold of the Manor House, Park Place, Greenwich, for £550 for the purpose of a tuberculosis dispensary, and has empowered the Public Health Committee to take steps for its adaptation and equipment.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

WOLVERHAMPTON GENERAL HOSPITAL.

HYPERTROPHIED SIGMOID IN A BOY TREATED BY EXCISION.

(By W. F. CHOLMELEY, F.R.C.S.Eng., Honorary Surgeon to the Institution.)

THE following case is of interest, on account of the enormous size of the sigmoid, the age of the patient, and the probable cause of the condition.

The patient, a boy aged 6 years, was admitted on November 13th, 1911, under the care of Dr. Codd, when the following notes were taken: A history to the effect that he had had an imperforate anus at birth, which was successfully operated on; ever since he had been very constipated, the bowels occasionally not being open for three weeks.

State on Admission.

The boy was very pasty in appearance. His abdomen moved well, but showed much distension and visible peristalsis. On pressure the abdomen pitted, and did not regain its normal shape for some time. The rectum was much distended, and full of soft faeces of a doughy consistence.

The boy was ordered a course of enemata, for the most part twice a day, and at the end of twelve days, the abdomen having become much smaller, he was transferred for surgical treatment.

Operation.

The case was looked upon as one of a large dilated colon, and on November 22nd I operated with a view to doing an ileo-colostomy.

The abdomen was opened in the left iliac region, and what appeared to be a thin-walled translucent cyst presented in the

wound as soon as the peritoneum was opened. This proved to be thinned and distended bladder, and was emptied by means of a catheter. The caecum and appendix next appeared in the wound, and had to be pushed on one side before the contents of the abdomen could be examined.

Before I could examine the abdomen at all thoroughly the patient became so collapsed that it was evidently too risky to do any more. The abdomen seemed to be almost entirely occupied by an enormously distended and hypertrophied sigmoid, which was full of soft faeces. The wound was rapidly closed and the boy taken back to bed. I decided, before making another attempt, to try to get the bowel more empty and the boy in better condition.

With these objects in view he had daily a simple enema, as well as a dose of castor oil and a mixture containing mag. sulph. It required all this to bring about a good daily action. Urine was passed only once a day. Under this treatment the child improved in health, the abdomen became softer and smaller, and no longer pitted on pressure.

Second Operation.

On January 10th, 1912, the abdomen was again opened, but this time in the middle line below the umbilicus.

The distended bladder again presented in the wound and was found to reach up to the spleen. A catheter was passed, and, after the bladder was empty, a careful examination of the abdominal contents was made and the following found: The sigmoid had pushed the intestines to the left side, including the

caecum and ascending colon, and occupied the whole of the right side. The sigmoid and rectum were very large, the walls hypertrophied, and were half filled with soft faeces. The pelvis was entirely occupied by the distended rectum; in fact, it was lined with it, the bladder being pushed up and the peritoneum ending at the brim of the pelvis.

The wound was enlarged to reach from the umbilicus to the pubes, and the dilated gut, which reached up to the liver, easily delivered from the abdomen.

No difficulty was experienced in separating the gut from the descending colon or from its mesentery. Only one vessel, the sigmoid, at its origin from the inferior mesenteric, required ligature.

The difficulty began at the lower end of the sigmoid, as here the gut was very large, the walls much thickened, and fixed all round to the pelvis. A curved clamp was applied as low down as possible, and the sigmoid removed. It was found possible to bring the divided end of the descending colon and to suture it to the divided end of gut in the pelvis, the method being the same as that used by Billroth when suturing the duodenum to the stomach after pylorectomy, except that the sutures were continuous. I used three layers of sutures, but not being confident that the bowel would heal well, as its vitality did not seem strong, I drained the abdomen by means of a small tube passed down to the line of sutures.

The rectum was found to be as much distended as the sigmoid, or as much as the size of the pelvis would allow, but was not excised, as I considered that it would be too severe an operation.

After-Progress.

The child stood this operation very well, and was very little collapsed. A catheter had to be passed for the first two days, and on the third day, as no urine was passed, and the bladder became very distended, a catheter was tied in, and kept there for a week.

Two days after the operation the drainage tube was removed, rather earlier than I had intended. The lower end had a rather suspicious smell, but I did not think it wise to try to replace it. On January 12th, while under an anaesthetic, to have a catheter passed, the anus was dilated and the rectum examined. This was found to be full of hard scybala.

Enemata of olive oil were given to soften the scybala, but without much result, so a few days later, as the lower abdomen was becoming distended, I cleared out the rectum under ether. A very large mass was got rid of, and the anus again dilated. The distension of the abdomen disappeared. The line of suture from the inside felt quite firm, but must have been strained, as on the 18th, while the daily enema was being given, a good deal of it came through the sinus left by the drainage tube. The rectum was washed out daily, the amount coming through the sinus getting less and less, until February 5th, when it ceased.

After February 7th no more enemata were given, the bowels opening naturally. Occasionally a little syrup of figs was given.

Result.

The boy improved rapidly, and on February 19th he went to a convalescent home. The bowels were acting every day without any purge or enema, and the abdominal wound was quite healed, with the exception of the sinus left by the drainage tube. When last seen the wound in the abdomen had healed after the intestinal sutures had come away, and there still was no difficulty with the bowels.

REMARKS.

The removed portion of bowel, which was about a third full of soft faeces, weighed 2 lb., and when emptied of its contents held 3½ pints of water.

The cause of the dilatation and hypertrophy of the bowel was, I have no doubt, the condition of the anus, and the neglect on the part of the child's parents in not seeing that the bowels acted daily. The operation for imperforate anus had been successful up to a certain extent, but left a tight stricture of the anus.

The dilatation of the sigmoid had gone on to such an extent that there seemed to be no power left in the muscular coat. This was shown by the amount of purgatives necessary to get a daily action of the bowels before the sigmoid was removed. After its removal no purge of any kind was needed.

THE late Dr. Richard Allanson Gaskell, J.P., V.D., of Glendavon, Huyton, Liverpool, left estate valued at £107,825 gross, with net personalty £81,309.

The nineteenth International Congress of Hydrology, Climatology, and Geology will be held at Madrid this year in October (15th to 22nd). It will devote itself specially to the study of the hydrology and climatology of Spain, with the special object of making known the wealth of that country in watering places and climatic health stations. In connexion with the congress there will be an exposition of plans, specimens, etc., relative to the subject with which the congress proposes to deal. All correspondence should be addressed to the General Secretary, Dr. Rosendo Castells, 10, Encarnacion, Madrid.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF DISEASES OF CHILDHOOD.

AT a meeting on March 28th, Dr. J. WALTER CARR, Vice-President, in the chair, the following were among the exhibits:—Dr. FREDERICK LANGMEAD: (1) *Tremor* in a girl aged 10. It was unassociated with any sign of organic disease, and was probably congenital. (2) "*Nervous cretinism.*" The case was so called after the description given by Major McCarrison, I.M.S., and was one of cretinism complicated by cerebral diplegia. It was shown to raise the question as to the relationship between cerebral diplegia and deficiency of the thyroid gland. McCarrison had found that about a third of the cases of cretinism endemic in some valleys in India is associated with cerebral diplegia. (3) A case of *Imperfect ossification* of the cranial vault in a boy aged 4. A small hole persisted at the posterior end of the sagittal suture, where cerebral pulsation could be seen and felt. Dr. F. G. CROOKSHANK and Mr. SIDNEY A. BOYD: *Congenital deformity* of the thorax in a boy aged 6½ years. A gap was present in the bony thorax on the right side, and through it bulged a considerable hernia of the lung. The upper arm fitted closely into the gap if apposed. Mr. A. S. BLUNDELL BANKART: *Achondroplasia* in a girl aged 7 years. Great enlargement of the epiphyses existed, and shrinking of the diaphyses. The condition simulated rickets, but the head was neither rachitic nor achondroplastic. The joints were very lax, the wrists permitting movement through an angle of 180 degrees. Opinions were expressed in favour of rickets as the correct diagnosis. Mr. LIONEL E. NORBURY: *Circumscribed serous meningitis* in a boy aged 13 months. There had been convulsions followed by right facial paralysis and tremor of the right hand and arm, right leg, right side of mouth, and also of the tongue and lower jaw. The left parietal bone had been trephined over the Rolandic area, and the pia arachnoid found swollen and oedematous. The tremor gradually disappeared; only slight facial paresis remained. Dr. REGINALD MILLER and Dr. LEONARD PARSONS expressed the opinion that the condition was one of polio-encephalitis. Dr. R. C. JEWESBURY: *Acute poliomyelitis* which affected the muscles of both hands. Dr. F. PARKES WEBER: *Congenital eversion of the great toes* and other abnormalities in an infant 7½ months old. Dr. LEONARD PARSONS: (1) Sections from a case of *Progressive muscular atrophy* (Werdnig-Hoffmann type). The affected muscles showed fibrosis; some fibres were larger than normal, but the majority were smaller and contained an enormous number of nuclei. Many showed fatty degeneration. Only about a third of the usual number of cells were seen in the anterior cornu of the cord. (2) *Diffuse sarcomatosis* of the brain and spinal cord. The primary growth was in the cerebellum, and was a mix-celled sarcoma. Its method of spread was due to "infection" of the cerebro-spinal fluid. Mr. SEYMOUR G. BARLING: *Hair-ball* removed from the stomach of a girl aged 7. It presented an exact cast of the stomach, and consisted of a felted mass of hair and string. Dr. J. T. LEON: A lung showing *Acute tuberculosis* which had spread from its root. No generalized tuberculosis had occurred.

MANCHESTER MEDICAL SOCIETY.

THE presidential address, delivered by Dr. J. J. COX on March 5th, dealt with *Multiple infective arthritis*, a subject which the speaker discussed in all its aspects, though paying special attention to the arthritis deformans type. The latter was most probably due to some as yet undiscovered organism or organisms most easily affecting individuals at certain stages of development and in certain conditions of health. The toxins produced might act in various directions: (1) By elimination through the joints, causing the articular and periarticular characteristic deformities and loss of proper function, especially seen in hands and fingers; (2) upon the nervous system, as shown by rapid pulse, sweating, loss of cutaneous sensibility, atrophy of muscle, at times preceding the joint changes, and a Babinski reflex fairly often met with; (3) upon

the blood-making functions, as shown by profound anaemia; (4) upon the lymphatic glands and spleen (Dr. Still's disease). The theory of the neural origin of arthritis deformans should probably be given up altogether. The theory of Poncet and Leriche, that many cases of infective arthritis were due to the effects of an attenuated virus of tubercle, meant that the joint changes in question stood towards tubercle as did the parasyphilides to infection with the *Spirochaeta pallida*. There was urgent need for thorough research on arthritis deformans, especially in regard to the bacteriology of the urine. In treatment few drugs were of much avail except guaiacol, arsenic, and potassium iodide, aided by iron and cod-liver oil. The patient's strength must be kept up well by proper and generous diet. Chronic intestinal stasis must be thoroughly dealt with by aperients, Plombières douches, and skilled massage. Every patient with chronic constipation was perilously near the risk of developing arthritis deformans, for a recent investigation at the Devonshire Hospital, Buxton, showed that 78 per cent. of the arthritis deformans patients had a history of chronic constipation. It would be well also to try the effect of giving in the early stages hydrochloric acid and glycero-pepsine, on the lines which Drs. Woodwark and Wallis, following up the work of Dr. Helen Baldwin in 1904, had recently advocated.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on March 27th, Mr. ROBERT JONES, President, in the chair, Mr. COLIN CAMPBELL, in a note on four cases of *Graves's disease* treated by fresh thyroidectomized goat's milk, supplied reasons for holding that the prevalence of the disease was increasing and that cases did not "tend to get well." Non-recovery was the rule, whilst deaths were more frequent than cures. His experience of the various serums had been unfortunate. The cases treated with fresh milk had improved comparatively quickly; one, he might say, was cured. Possibly much of the benefit derived from the use of goat's milk was due to its nutritive qualities rather than to its antithyroid action. Mr. THURSTAN HOLLAND said he had treated 50 cases of Graves's disease by *x* rays with satisfactory results, and thought that method much more reliable than any other. Dr. WARRINGTON thought that Dr. Holland had made out a case for *x*-ray treatment, but said that all remedies that had been tried and vaunted were ultimately found unsatisfactory. Mr. KEITH MONSARRAT said he had seen surgical treatment very successful in properly selected cases. Dr. G. C. E. SIMPSON, in a paper on *Appendicitis in children*, said that in the records of the Liverpool Infirmary for Children no case of appendicitis, perityphlitis, or pericolitis appeared from 1876 to 1891, and from 1884 to 1891 only 2 cases of abdominal abscess led to a fatal result among an annual average of 15,000 patients. In 1892 a case of iliac abscess was recorded, and from that time there had been a steady increase in the frequency of these cases; in the last five years there had been an average of 24 cases per annum, the figure rising to 34 in 1910–11. The average death-rate was high, being 23 in 160 cases, or nearly 15 per cent. The speaker had himself treated 34 cases, and urged that the disease was increasing in frequency and in severity, so that no opportunity should be lost of impressing on the public the importance of abdominal pain in a child. Dr. A. STOOKES said that while he had been Resident at the Infirmary for Children in 1884 a case of abscess of the brain and liver had been recorded which was secondary to a pin in the vermiform appendix. He was much struck by the frequency of the disease now as compared with its great rarity thirty years ago. He did not think these cases were missed by the practitioner of those days. In Dr. West's book on *Diseases of Children*, published in 1859, were recorded 4 cases, and the description of the disease showed that the author recognized its existence and its rarity. Mr. R. W. MURRAY said that in a paper fifteen years ago he had advocated treating these cases by hot fomentations and temporizing measures until the abscess pointed, and then opening and draining. He could not now repeat such a recommendation, for the poison had increased in virulence, possibly owing to food adulteration. Mr. F. T. PAUL said that in his early days he remembered only three cases of appendix disease in five years, during which every fatal case at the Liverpool Royal Infirmary was examined after death. He believed that there was always a foreign body in the appendix at the first attack. When the case was not seen at the very onset it was necessary to use judgement as to operation. In some cases he thought it wise to wait for an interval operation; no hard and fast rule could be laid down. Dr. MACALISTER thought investigation was needed as to the cause of intestinal diseases, and especially in regard to food habits. Appendicitis was closely related to the other intestinal disorders, such as colitis, and he thought the condition of the teeth had much influence in these diseases. Mr. ARTHUR EVANS drew attention to the fact that a right-sided basal pneumonia might be mistaken for appendicitis. Dr. W. B. WARRINGTON read a paper on *Meningitis serosa*, which he said was chiefly associated with otitis, but was also associated with other infective diseases, as tuberculosis. The term implied a condition in which there was a pathological collection of clear sterile fluid in the intracranial cavity. In the diagnosis from abscess of the brain the chief guiding marks appeared to be: (1) The sudden and acute onset of symptoms with an otitis; (2) the fluctuating course of the symptoms; (3) the absence of constitutional signs often associated with brain abscess; (4) a study of the localizing signs, which differ from those sometimes met with in abscess. Serous exudates into the intracranial cavity might occur in association with distant sites of suppuration—for example, after appendicitis and puerperal infection. He had also seen it follow a blow on the head and a mental shock. In one case serous apoplexy occurred in a young man, the result of starvation and exhaustion, and terminated in complete recovery.

GLASGOW SOUTHERN MEDICAL SOCIETY.

AT a meeting in the Faculty Hall on March 20th, Dr. J. A. AITKEN, President, in the chair, an address entitled *The passing of tuberculosis* was delivered by Sir R. W. PHILIP, the honorary President. Sir Robert said the optimism reflected in this term was justified by tangible evidence; a hopeful factor was that the medical profession and the public were now together handling the question of tuberculosis as one of the live problems of the hour. In dealing with the sites of invasion by the bacillus, he laid particular stress on the posterior nares, faucial and tonsillar regions, as being specially vulnerable. A fact of significance was that successful inoculation might be accompanied by little, if any, local change, especially in childhood, when the mucous surfaces were more absorbent and succulent. This explained the great frequency of infection with limited evidence of surface lesion. After infection the further course consisted for the most part in a gradual spread by way of the lymphatic system. First, one or two glands in the neighbourhood of the point of inoculation became enlarged, and then progressively others at a greater distance, the extent depending on the degree of resistance which the patient offered. There was evidence suggesting that the glands exerted a definite antagonist influence. In this respect he referred not to gross deformity of glands, but rather to progressive infiltration of chain after chain of glands so slight in degree that they were mostly overlooked. The determination of tuberculosis at the lymphatic stage would be a common event if such lymphatic tracts were scrupulously supervised in childhood and adolescence. It was at the lymphatic glands that tuberculosis ought to be opposed, and when thus opposed its further spread within the system was readily prevented. The tuberculous toxins seemed to act especially on neuromuscular structures with progressive loss of sarcous substance and associated enfeeblement and irritability of muscle, and to this might be referred the early signs of motor weakness both of limbs and viscera—the feeling of tiredness, the disinclination for effort, the softening pulse, and the gastro-intestinal sluggishness. These were generally in evidence long before cough or expectoration, or other indication of local lesion. To wait for the appearance of tubercle bacilli in the discharges was to wait much too long. Many years ago he instituted at the tuberculosis dispensary a "march-past" of the infected households. This systematic examination led him to the conclusion that tuberculosis among children was far commoner than

had been supposed, indeed that at least 30 per cent. of children were affected. This had been entirely confirmed by bacteriological and pathological observations in different countries. If the principle of the "march-past" were universally carried out, not merely at the tuberculosis dispensaries, but in general practice, tuberculosis in its grosser forms would disappear.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting on March 26th, Dr. LINDSAY, President, in the chair, Professor TEACHER gave a demonstration of gynaecological specimens illustrating various conditions, the most noteworthy being sections of the genital gland of a case of hermaphroditism showing both ovarian and testicular tissue elements, specimens of ovarian pregnancy, and a specimen of a uterus showing ectopic pregnancy in a rudimentary Fallopian tube. A lantern demonstration was also given on the embedding and development of the early human ovum. During its course Professor Teacher reviewed existing knowledge of the subject, more particularly in relation to the work of Professor Bryce and himself. He stated that the *Teacher-Bryce ovum* preparation still represented the earliest known stages of the human ovum, the only more recent specimen at all comparable in age being that of Young of Edinburgh. This was apparently intermediate in development between it and the ovum of Peters, but was probably abnormal. Several very valuable ova of about the age of Peters's had been found within the last five years, and the examination of these had confirmed and extended the discoveries due to that famous preparation.

HUNTERIAN SOCIETY.

AT a meeting on March 26th Dr. ARTHUR LATHAM, in opening a discussion on the *Uses of tuberculin*, said the intensity of the von Pirquet reaction was of service in estimating the dosage and spacing of doses in a course of tuberculin. By the use of tuberculin at the King Edward VII Sanatorium the number of patients who lost their tubercle bacilli had been increased by 17 per cent. over what was obtained merely by sanatorium treatment. If the real nature of pleurisy in early adolescence were recognized and the case properly treated by sanatorium methods and tuberculin therapy, probably a considerable number of cases of pulmonary tuberculosis could be avoided. As to the particular form of tuberculin to be selected for use, results showed that this was of no great importance; the chief thing was for the observer to know the value and the limitations of the particular brands he used. In many chronic cases S.B.E. was preferable to the ordinary bacillary emulsion. He had never been convinced of the truth of the statement that bovine preparations should be used in lung infection and human in examples of "surgical" tuberculosis. A large proportion of surgical tuberculosis was due to infection from human sources, yet the upholders of cross-vaccination treated all cases of this form of the disease with human preparations. The fact that great improvement followed in many of these cases showed that cross-vaccination was not essential. Dr. CRACE-CALVERT agreed that pleurisy should never be neglected, as very often it was the precursor of definite lung disease. Sanatorium and tuberculin treatment were complementary, as one provided the stimulus to the production of antibodies, and the other the powers of response. Most patients were suitable for the use of tuberculin if they were carefully watched first, and if very small doses were used at the start. He used bacillary emulsion, as it resembled an ordinary vaccine, and was slowly absorbed, and therefore caused a more lasting production of antibodies. The intensive system of dosage increased the tolerance and decreased the sensitiveness. If the same site were always used for the injections it was sometimes difficult to inject, apparently owing to the inflammatory condition, and if so a general reaction was very likely to occur. Even if tuberculin aided in the production of cavities, it was often a good thing, as it was preferable to have simply a ring of scar tissue round an empty cavity rather than a mass of dead tissue containing bacilli, and this cavity formation did not make more liability to haemorrhage, as the focal reaction tended rather to the obliteration of vessels. Patients treated with tuberculin certainly lost the bacilli from their sputum more readily than those not treated, and so the tendency to relapse was greatly reduced.

LONDON DERMATOLOGICAL SOCIETY.

AT a meeting on March 18th, Dr. MORGAN DOCKRELL in the chair, Mr. E. H. Ross described certain *Intracellular protozoal parasites found in guinea-pigs*. They exhibited asexual, sexual, and conjugate stages, while the male elements developed into microgametes indistinguishable from spirochaetes. They led to much cell destruction and produced anaemia and lesions comparable to those of human syphilis. There was reason to believe that they were conveyed from animal to animal during coitus, and they could be found in the blood of the young of infected mothers. Similar intracellular parasites had been found in every case of untreated syphilis so far examined, and some had been seen to develop into spirochaetes. Rabbits and hares likewise suffered from a condition indistinguishable from syphilis, and in the lesions corresponding organisms could be found. Dr. Castellani, the speaker, and his brother, Dr. H. C. Ross, had found similar parasites in a fatal case, which was apparently one of anaemia, but might be one of sprue. The PRESIDENT spoke of the results of his observations on patients after giving salvarsan—namely, that they obtained a complete freedom from the parasites for a time, but that they returned before long, and that it was necessary to continue with mercury. Dr. W. GRIFFITH considered that from a practical point of treatment it might be well to examine the blood of patients for these amoeboid bodies, and only give salvarsan when they and the spirochaetes were found free in the blood. Dr. KNOWSLEY SIBLEY said the paper confirmed the views he had always maintained—namely, that the *Spirochaeta pallida* was not the essential virus of syphilis, and now they were told it was a spermatozoon. The fact that the same organism was found in earthworms suggested to his mind that the origin of the syphilitic virus was Mother Earth. Moreover, the fact that the male organ in some of the African tribes was much longer and more pendulous than in Europeans, and that these tribes spent much of their time squatting on the earth, might explain the contamination of the mucous membrane from the soil. The following were among the exhibits at the meeting:—The PRESIDENT: A woman, aged 35, who had had a peculiar lesion on the bridge of her nose for some two years, which he was inclined to consider was a *Rhinoscleroma*. Dr. SIBLEY: A case of *Lupus* in the inner canthus of the right eye in a man, aged 28, who had had it for four years; he had treated it with one application of carbon dioxide snow for two minutes, and had obtained a very good result. Dr. J. L. BUNCH: A girl, 17 years of age, with an obvious *Dermatitis artefacta* lesion on the leg. Dr. GRIFFITH: A case of *Mycosis fungoides* in an old man.

THE estate of the late Dr. Campbell Boyd, recently president of the Chelsea Clinical Society and honorary secretary of the Irish Medical Schools' and Graduates' Association, has been sworn at the gross value of £14,637, the net personalty being £12,867.

AT a meeting of the British Oto-Laryngological Society held at the rooms of the Medical Society of London on April 3rd, it was decided that the society should have no president, but that a chairman should be elected at each meeting. The following gentlemen were appointed members of council:—Metropolitan: Dr. Fred. Spicer, Mr. Chas. Heath, Dr. Coubro Potter, Dr. L. Hemington Pegler. Provincial: Mr. Geo. Jackson (Plymouth), Dr. Barclay Baron (Bristol), Dr. Livingstone (Newcastle), Dr. Gogarty (Dublin), Dr. Walton Browne (Belfast), Dr. James Harper (Glasgow), Dr. Potts (Maidstone), Mr. Adair Dighton (Liverpool), Dr. Haring (Manchester), Dr. Little (Bradford). Dr. Percy Jakins was elected honorary treasurer, and Dr. Walker Wood, 30, Canfield Gardens, N.W., honorary secretary.

Reviews.

DUBLIN REMINISCENCES.

SIR CHARLES CAMERON, C.B., in his recently published *Reminiscences*,[1] has given his readers a number of incidents in the history of Dublin during the last sixty years, interesting both from a medical and social point of view. At the age of 14 the author appears to have been threatened with consumption, as he had a prolonged cold with a severe cough and occasional haemoptysis; he was therefore sent to Guernsey, where he spent nearly two years, and completely recovered his health and strength. From an early age he took a great interest in chemistry, and in 1852, when the Dublin Chemical Society was established, he was unanimously elected its Professor of Chemistry; he was then 22 years old and a medical student. He gives an amusing account of his first lecture; he began at 8 p.m. to an audience of about 70; he used no notes, but continued talking and making experiments till a card was quietly passed up with the words written on it, "Do you know it is past 10 o'clock?" In 1856 he became professor of chemistry and natural philosophy in the Dublin School of Medicine, and two years later chemical lecturer in the original School of Medicine, subsequently renamed the Ledwich School of Medicine. In 1862 he was appointed public analyst; he was the third person appointed to such an office, and is now the senior holder of it in the United Kingdom. In 1868 he became professor of chemistry and hygiene at the Royal College of Surgeons, and has been medical officer of health for Dublin for thirty-two years.

In some recollections of meetings with various famous actors and actresses, he describes how he was invited by Miss Olga Nethersole to a supper at the Shelbourne Hotel, and when asked by her if there was any dish he would particularly like, he said that if he was at home he would have a bowl of bread and milk. Miss Nethersole said that was exactly the kind of supper she usually had; so they each had their bowl of bread and milk, while the rest of the party had an elaborate champagne supper. An amusing story is told of Dr. Evory Kennedy, at one time Master of the Rotunda Hospital. In his early days a gentleman called to engage Kennedy's services for his wife, and inquired the fee. Dr. Kennedy said "ten guineas"; the gentleman observed, "I suppose that is ten pounds?" but the doctor repeated, "ten guineas." In due time the doctor was sent for, performed the required services, and, being winter, took up a position in front of the fire. The gentleman appeared and said, "Your fee is ten pounds, doctor?" "Oh, no; ten guineas, as I have already told you." The gentleman left the room, and on returning paid the doctor his fee. Dr. Kennedy took it, and putting his hands behind his back felt only ten coins wrapped in paper; he slipped the coins in his pocket and threw the paper in the fire. What was his disgust when he got home to find that the coins were shillings, and that they had been wrapped up in a £10 banknote which he had burnt.

For eleven years Sir Charles acted as expert for the Government in cases in which bloodstains had to be examined and human viscera analysed for the detection of crime. He tells some stories of cases of unusual interest, and describes how in one case he had to attend the court in the country every day for months and calculates that during the trial of this one case he travelled altogether 6,144 miles by train.

To Sir Charles Cameron is largely due the foundation in 1897 and subsequent success of the Corinthian Club in Dublin, which resembles the Savage Club in London. There are few men probably who have had a larger experience of public dinners and greater practice in speaking at them, and he tells us that sixty years' experience of dinner parties enables him to state that cases of inebriety at them are becoming rarer and rarer. The book ends with an account of how the Dublin poor live; of this he shows an intimate knowledge, gained during the thirty-two years that he has been chief health officer of Dublin. According to the census of 1911, 33.9 per cent. of the total families live in a single room. He gives instances of family incomes of 10s. a week and even less. He says a man's desire for matrimony appears to be inversely proportionate to his means for maintaining a family, and quotes a humorist who said that half the population of Dublin are clothed in the cast-off clothes of the other half.

The book is interesting, but it might have been easier to read had it been written in a more consecutive style.

[1] *Reminiscences of Sir Charles Cameron, C.B.* Illustrated. Dublin: Hodges, Figgis and Co., Ltd.; London: Simpkin, Marshall and Co. 1913. (Demy 8vo, pp. 181. 3s. 6d. net.)

DIABETES.

IT is the claim of the general editors of the series of International Medical Monographs that the books which appear under their auspices are not merely compilations but real contributions to medical science written by first hand authorities engaged in extending the confines of our knowledge. In the volume, *Diabetes, its Pathological Physiology*,[2] by Professor J. J. R. MACLEOD, this claim is amply justified, for the value of his original work is well known. It contains the subject matter of eight lectures delivered during the summer of 1912 in the Physiological Laboratory of the University of London, and the researches of the author and his collaborators form its basis. Often, indeed, such investigations cannot be directly applicable to the work of the practitioner, but they are the foundation of his progress, and although in the pathological physiology of diabetes the amount of research has been enormously disproportionate to the results which have accrued either to our knowledge of the disease or our means of treating it, yet there can be no doubt that in both these respects our grasp of the subject is deeper and wider in consequence of the work of the last thirty years. The special difficulty of the subject is well illustrated by the career of the late Dr. Pavy, who devoted himself with extraordinary persistency and great ability for fifty years to the elucidation of these questions, and yet could not claim to have arrived at more than provisional answers to any of them. The work of the laboratory, however illuminating, must, as Professor Macleod says, be supplemented by observations at the bedside; therefore it is most desirable that those who are interested in diabetes should make themselves acquainted with the work done by such physiologists as Professor Macleod and his co-workers. The recognition of minute traces of sugar in the urine is complicated by the presence of other reducing substances, such as creatinin and uric acid. Benedict's modification of the cupric-sulphate test and Hammersten's modification of Nylander's bismuth test are most serviceable; these two tests should be used in doubtful cases, and the urine fermented with yeast and the test repeated. If the detection of traces of sugar in the urine is difficult, its estimation in the blood presents obstacles even greater, because it is necessary first to remove the proteins, and in doing this much of the sugar goes too. However, these technical difficulties are now overcome by the method of precipitating with dialyzed iron (Rona and Michaelis) and extracting the precipitate with water. It is now believed that the effect of Claude Bernard's puncture is not directly on the liver, for it may be prevented by poisoning the sympathetic ganglia with nicotine or by removal of the adrenal glands; the conclusion is that glycogenesis is stimulated by excess of adrenalin and also by direct nervous impulses. That the pancreas forms a hormone which acts upon the liver is probable but not finally settled, nor is it known definitely what relation the islands of Langerhans bear to this secretion, although it seems clear that it is not solely derived from these structures. Removal of the pancreas affects the glycogenic power of the liver by first upsetting its glycolytic function, and this effect is not solely due to the unrestrained action of the adrenals. Professor Macleod believes that *post-mortem* glycogenesis is identical with that which occurs during life and that the increase is not due to an increase of ferment, but to changes in the environment in which the ferment acts. He discusses at some length the effects of different conditions such as the action of acids and alkalis, asphyxia, haemorrhage and

[2] *Diabetes, its Pathological Physiology.* By John J. R. Macleod, M.B., Ch.B., D.P.H. International Medical Monographs. London: Edward Arnold; New York: Longmans, Green and Co. 1913. (Demy 8vo, pp. 234. figs. 5. 10s. 6d. net.)

muscular exercise. On page 198 he blames the practice of insurance companies of refusing all applicants whose urine reduces Fehling's solution, yet on page 3 he appears to admit that such a person may be "a latent case of diabetes." We cannot speak for all insurance companies, but so far as we know if the urine reduces Fehling's solution, but there are no indications of diabetes, the case is reserved for further examination, and not rejected forthwith. We have only touched on a few of the points of interest, but hope that we have said enough to stimulate readers to go to the book itself.

Professor VON NOORDEN'S lectures on *New Aspects of Diabetes*[3] were delivered in the New York Post-graduate Medical School last October. The first three were devoted to a restatement of the pathogenesis of diabetes in the light of recent researches. The fourth is devoted to treatment, and contains little that Professor von Noorden has not told us before; but those who are not acquainted with his methods will find in it a detailed description. In addition to the four lectures there is a supplementary chapter on acetonuria, especially in its relation to the dietetic treatment of diabetes. He regards as the most important disturbance of metabolism in diabetes the inability of the hepatic cell to fix carbohydrates; this inability varies in different persons, and is often in the same case not constantly maintained at the same level. The inability is probably due not to a want of power to form glycogen, but to a tendency to decompose the just formed glycogen too rapidly. The sugar derived from albumen is formed, he thinks, during gastric digestion, but is absorbed and carried to the liver, where it acts like any other carbohydrate; he explains the comparative harmlessness of protein diet in diabetes by the time required for the digestion of the albumen, so that it reaches the liver gradually, but he sees reason to believe that there is a difference hitherto unexplained in the action of various proteins, that derived from muscle having a much greater exciting action on the liver than that derived from eggs or vegetables. For this reason he finds the commercial product "Glidine" of use in treatment of diabetes. Further, the flesh of fish, especially of large fish, induces a smaller output of sugar than the flesh of other animals. He believes the liver possesses the power of forming sugar from fat, and that not only the fat of the food but the deposits of fat in the tissues are drawn to the liver for this purpose. He does not believe that the formation of sugar from fat involves a stage of glycogen formation, for in animals fed upon fat no glycogen is found in the liver. He thinks that muscle has not the power of utilizing fat, but that fat must be first converted into sugar; he admits, however, that this doctrine is not yet established. He holds that the thyroid gland is the great promoter of oxidation in the body, but that under normal circumstances the pancreas exercises a restraining effect upon it; when, as in pancreatic diabetes, the function of the pancreas is diminished or destroyed the thyroid action is unrestrained. The liver is the seat of sugar formation, and is what he calls the "sugar factory," but it is only in severe and extensive disease of the liver substance that the formation of sugar is seriously disturbed. On the other hand, the sugar-forming function of the liver is easily stimulated. He holds that the pancreas in health exercises an inhibitory action upon the liver and favours the storage of glycogen; in pancreatic disease carbohydrate storage diminishes or ceases; the suprarenal bodies and the chromaffin system generally stimulate the production of sugar. A large dose of adrenalin causes the rapid disappearance of glycogen from the liver and produces glycosuria which may last for some hours, acting, in fact, precisely in the same way as Claude Bernard's diabetic puncture, for it is by its stimulating effect upon the adrenals that this experiment produces its well-known effect. Von Noorden does not consider that there is such a thing as a true neurogenous diabetes, the influence of the nervous system being confined to causing temporary glycosuria or aggravating an existing diabetes. Acetonuria, he thinks, is normally prevented by the special carbohydrate metabolism in the liver, and that in the absence of glycogen in the liver cells the formation of acetone bodies is favoured. As those kinds of diet which at first lead to acetonuria after a time cease to do so, and it is known that many animals, even man under certain conditions, live perfectly well on a diet of protein and fat without acetonuria resulting, he suggests that a state of tolerance may be created so that when the conditions have lasted for some time less acetone is formed. He uses this as an argument in favour of persevering with a strict diet in suitable cases of diabetes, in spite of moderate acetonuria at first. If we may summarize von Noorden's principles of treatment, they are the individualizing of the case, the recognition that excess of protein may do almost as much harm as excess of carbohydrate, and the desirability of interposing days of fasting or of a diet of vegetables and eggs in the treatment of all cases. He aims at the complete removal of sugar from the urine, and claims that this is not so difficult as is sometimes supposed. It is a pity that these lectures have not been more carefully edited, so as to remove awkward and obscure expressions which are perhaps due to the shorthand reporter, perhaps to the lecturer endeavouring to express himself in a foreign language. We find, on p. 40, "hyperplasia" for "hypoplasia"; pp. 71–2, "assured" should be "assumed"; on p. 73 we are told that the lectures have been published "shortly," meaning "recently," and "editor" is used where the English word is "publisher." We commend these lectures to our readers, and congratulate the New York Post-graduate Medical School on having arranged so interesting a course for its members.

[3] *New Aspects of Diabetes: Pathology and Treatment* By Professor Dr. Carl von Noorden. Lectures delivered at the New York Post-graduate Medical School. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1912. (Demy 8vo, pp. 160. 6s. net.)

HAEMATOLOGY.

DR. ARTHUR PAPPENHEIM has at last given to the profession a condensation of the bulky contributions which he has made to the subject of haematology.[4] Those of us who have followed much of what he has written have had to qualify appreciation with a very real desire that he would for once omit from his publications those frequent "asides" which render his writings severe mental gymnastics. It is always difficult to ascertain wherein he differs from other teachers. The perusal of the fifty odd pages of the book he has addressed to students and practitioners gives just that clarification which is needed.

The reader need fear no wide excursions into the domains of the physics and chemistry of the blood, but will find a clear account of those most cardinal examinations of the blood which have a real application at the bedside—the staining of blood films, the counting of the red and white corpuscles, and the estimation of the amount of haemoglobin. Side by side with the descriptions of what Dr. Pappenheim considers the one and only perfect method, the methods are given by which the blood changes met with in various clinical states may be correctly read. Generally we do not find much variation in his "constants" from those of other writers, and the object of the reviewer should be to point out wherein lies the special claim for the appreciation of this particular presentation of the subject. It will be found in the accounts given of the normal and pathological morphology of the leucocytes. In health the mononuclear lymphoid agranulocytes are composed of small lymphocytes and large monocytes; the polymorphonuclear true granular leucocytes include neutrophile ϵ-leucocytes, eosinophile α-leucocytes and mast cells. In disease "young" forms and "degenerated" forms of leucocytes occur, the former yielding subgroups according as they conform to agranulocytes or granulocytes, the latter the so-called "stimulation," or plasma cells. The reader will find the distinctions between all these types well set out in the letterpress, and should he desire some pictorial presentation of their distinctions we would recommend as almost necessary an appeal to the excellent atlas (BRITISH MEDICAL JOURNAL, October 13th, 1906, p. 955; ibid., August 13th, 1910, p. 378) by the same author, reference to which has already been made in reviews in this JOURNAL.

[4] *Technik der klinischen Blutuntersuchung für Studierende und Aerzte.* By A. Pappenheim. Berlin: Julius Springer. 1911. (Demy 8vo, pp. 55. Mk. 2.)

Two quotations from the introduction of Dr. SCHILLING-TORGAU'S book[5] will give the reader an idea of what is to follow: "Apart from etiological factors (as malaria and other parasites) or a small number of exceptional diseases (leukaemia), an absolute determination of various diseases by means of the blood picture is impossible"; such a sentence shows breadth of view. "It should be the rule in every case of internal disorder to examine at least one blood preparation; by not carrying out a permanent blood control in suitable and doubtful cases we commit a scientific mistake." This speaks for thorough-going routine work which will not leave to chance the detection of the true state of affairs. The first part of the book, comprising twenty-two pages, is devoted to a very condensed account of the technique of blood examination, and closes with a model chart which will facilitate blood counts, and with a scheme of relationship between blood formation and blood pictures. In the fifty odd pages of the second part will be found a very concise account of the morphology of red and white corpuscles, of "stimulation" forms, and of "degeneration" forms of each variety of blood cell. Then follows, with a certain feeling of relief to the clinician, the third section, giving an interpretation of various blood pictures. The volume closes with short notes on the protozoa of the blood and a scheme for the full examination of the blood. The plates are excellent, and the second, especially, is useful because of its schematic representation of cells as they appear in the blood-forming organs, and as they appear in the blood.

FETAL MALFORMATIONS.

MALFORMATIONS of the fetus are of interest to a greater or less extent to most medical men, and we can thoroughly recommend to those who have not had an opportunity of reading it in the original, the English translation of Professor BIRNBAUM'S *Clinical Manual of the Malformations and Congenital Diseases of the Fetus*,[6] which has been recently completed by Dr. G. Blacker.

The practical interest of many malformations is primarily obstetrical, and the subject is dealt with mainly from an obstetric point of view; at the same time there is a great deal of information that must be of value to those who are engaged in other branches of surgery. There is nothing strikingly original about the work, but the author claims for it, and the claim is, we think, quite justified, that it is a genuine attempt to present within a reasonable scope the main facts gathered and condensed from the general literature of this subject. The result is a volume that has, as far as we are aware, no rival in the English language. The value of the work, especially from a student's point of view, has been enhanced by some careful explanatory notes added by the translator, and although these have considerably increased the size of the work their merit quite justifies their inclusion.

After briefly dealing with the theories as to the causation of malformations from a general point of view, the author proceeds on an anatomical basis to describe in sequence the deformities associated with the various regions of the body, and in each chapter the clinical aspect receives an appropriate consideration, and an outline of a suitable obstetric treatment is given. The discussion of each subject is concluded by a record of its literature and every opinion is duly recorded. Obstetrical injuries to the skull, besides forming a favourite topic for an inquisitive examiner, have a definite practical importance, and the chapter devoted to their consideration is full of valuable material.

Double monsters are, of course, clinical rarities, but they possess a very definite interest for the obstetrician, and the failure to diagnose the condition may be attended with the most serious results to the mother. The section assigned to their consideration is of a high order of merit, and the difficulties to be contended with in the diagnosis and treatment are carefully and lucidly dealt with. A classification that will satisfy all demands is not easy, and several are submitted for consideration. This chapter should certainly be read carefully by all students of gynaecology.

The book is completed by an all too brief dissertation on the legal rights of monsters. In future editions of the work we should very much like to see this particular subject dealt with at greater length.

The illustrations are excellent and are mainly from the Göttingen Clinic, which would seem to be particularly well equipped with this type of specimen. The translation of this laborious work has been in excellent hands, and English obstetricians should be greatly indebted to Dr. Blacker for a very valuable addition to their literature.

NEUROLOGY.

THE handbook by BRUNS, CRAMER, and ZIEHLEN on diseases of the nervous system in infancy[7] (not including psychoses) will be fully appreciated by neurologists and be welcomed by paediatrists. The authors have so arranged it that Cramer treats of the functional derangements, such as nervosity, hysteria, epilepsy, etc.; Bruns of the affections of the spinal cord and the peripheral nerves, including polymyositis, myositis ossificans multiplex progressiva, etc.; and Ziehlen of those of the brain and the meninges. Practically the book is a series of monographs. Each of the contributors has acquitted himself of his task in a manner worthy of his established reputation. It is no disparagement to the book to say that it contains nothing original, nothing that calls for special discussion, nothing that rouses controversy. What, however, may truly be added is that it gives an excellent account of facts and theories that ought to be known to those for whom it is more immediately intended, and that it is written with consummate skill partly from a rich personal experience, partly from an intimate acquaintance with the literature. The subject is introduced by a reminder of the differences in the anatomy and physiology of the young and growing and the fully developed organisms, in order to explain the differences in the clinical manifestations of disease at an early and a later period of life. The authors confirm the fact that most nervous affections of infancy are entirely or mainly of endogenous origin; and Cramer rightly insists on the great responsibility which parents and teachers incur by misguided dealings with children of neuropathic disposition. An otherwise arid description of the symptoms is relieved by illustrative cases as well as by photographs of the characteristic features which the various forms of the disease impress upon the patients. There are also illustrations of the macroscopic and microscopic appearances of the lesions, where such exist, of the parts chiefly affected. Diagnosis is fully discussed, and the various methods of examination which help to right conclusions are explicitly stated. The treatment which each author recommends is eminently practical and based partly upon his own experience, partly upon the critical examination of the writings of other trustworthy observers. Cramer reports cases of functional derangements which show what an accomplished physician can effect by judicious management, provided he meets with the willing co-operation of the parents. Bruns and Ziehlen, who deal with organic diseases, set out without prejudice the indications and contraindications for operative interference. Each chapter is also furnished with an exhaustive list of the literature, which will be very useful to future inquirers. The book deserves, and will, we hope, obtain, a wide circulation, not merely amongst specialists but also amongst general practitioners, under whose notice the nervous affections of children always come in the first instance. If our earnest hope in that respect should not be fulfilled, it will probably be because its bulk will prove somewat deterrent to the busy physician. We cannot refrain, however, from stating that there is a redundance of newly coined technical terms such as tachyochaemorrhysis, bradyochaemorrhysis, pleonaemia, pleocythaemia, etc., which seem to possess no advantage over others equally expressive and more generally familiar.

[5] *Das Blutbild und seine klinische Verwertung*, etc. [The Blood Picture and its Clinical Significance (Including References to Tropical Diseases). Concise, technical, theoretical, and practical instruction in microscopical blood examination.] Von Dr. V. Schilling-Torgau, Oberarzt, Kommandiert zum Institut für Schiffs- und Tropenkrankheiten in Hamburg. Jena: Gustav Fischer. 1912. (Med. 8vo, pp. 100; 3 lithographic plates and 11 illustrations. Mk. 4.50.)

[6] *A Clinical Manual of the Malformations and Congenital Diseases of the Fetus.* By Professor Dr. R. Birnbaum. Translated and annotated by G. Blacker, M.D., B.S., F.R.C.P., F.R.C.S. London: J. and A. Churchill. 1912. (Roy. 8vo, pp. 394; figs. 58; plates 8. 15s. net.)

[7] *Handbuch der Nervenkrankheiten im Kindesalter.* Von Professor L. Bruns, Professor A. Cramer, and Professor Th. Ziehlen. Berlin: S. Karger. 1912. (Sup. roy. 8vo, pp. 992, Abbn. 189, Tfn. 3. Mk. 30.)

The monograph on the functions of the cerebellum written by Dr. ANDRÉ-THOMAS of Paris a few years ago has been translated by Dr. W. C. HERRING of New York, and the work has been well done. Since 1895 André-Thomas has published a long series of clinical and experimental works upon the functions of the cerebellum, and the lucidity and thoroughness with which he discusses this very complex problem leave nothing to be desired. In the translation, which has the title *Cerebellar Functions*,[8] the first 53 pages are given to the anatomy and histology of the cerebellum; then follow 47 pages on the results of experimental lesions of its structure, and 30 pages on the symptomatology of its various morbid affections. Then follow 75 pages dealing with the interpretation of the facts given in the preceding part of the book, and discussing the connexions between the cerebellum and the organic functions, sensibility, intelligence, and motility. The whole subject is notoriously complicated. Perusal of this volume leaves the impression that the results of destruction of the cerebellum are fairly well understood; disturbances of motility follow, particularly disturbances in the association of movements—the movements become ill-measured, discontinuous, and the tonic maintenance of equilibrium is lost. The cerebellar hemispheres act mainly each on its own side of the body; when one of them is destroyed its functions are in part taken on by the cerebral hemisphere and labyrinth of the opposite side, but with the characters of regularity, precision, tonicity, and ready equilibration replaced by irregularity, clonicity, and instability, as a result of the substitution of cerebral for cerebellar regulation of the movements. The book gives a clear and sound account of present knowledge of the subject.

NOTES ON BOOKS.

THE edition of *The Medical Annual*[9] for 1913, both in its arrangement of matter and in its style, conforms very faithfully to the model of its thirty predecessors, and its anonymous editor has once more managed to provide himself with a good staff of writers. For the most part these all bear names familiar to the medical public in connexion with one or other departments of medicine or surgery, and many of them are old contributors to this particular publication. The result is a volume which, written succinctly throughout, supplies an excellent summary of the progress of medical science during the previous year, together with a vast amount of information on most subjects connected with the practice of medicine. A perusal of one or two sections suggests that to a person with special knowledge of the subjects concerned it may sometimes seem that points have been overlooked, but there is no doubt that taken as a whole this book will fulfil the needs of general practitioners as amply as its predecessors. This year is supplied a short glossary of new terms which it is intended to extend year by year. Most of those in the present list relate to bacteriology, and are self-explanatory to persons conversant with this science; to others they must convey comparatively little information, even when their meaning is explained in dictionary form.

The latest issue of the *Transactions of the American Laryngological Association*[10] relates to the proceedings of that body at its thirty-fourth annual meeting, and contains some twenty-six papers, which, for the most part, cover fairly well trodden ground. The chief exception perhaps is one in which Dr. Clarence C. Rice asks, "When should singers having vocal disability be allowed to resume work?" The obvious answer would appear to be, When the vocal disability has disappeared, or in other words, when they can sing. This, too, would seem to be commonly the right answer, since the facts recorded in the paper or mentioned by subsequent speakers indicate that it is often exceedingly difficult to determine by an examination of the throat, even when supplemented by a voice trial, whether a given singer will get through an evening's work successfully and without subsequent harm. Some vocalists can sing to the perfect satisfaction of an audience and harmlessly to themselves when their throats are inflamed, and in no case, it is suggested, can a sound opinion be given except by a laryngologist who takes into consideration the personality of the singer as well as the state of his throat.

The favourable opinion which we formed of the *Handbook of Practical Hygiene*[11] when it was issued in 1909 has not been lessened by a perusal of the second edition. Lieutenant-Colonel BEVERIDGE and Major WANHILL have revised the volume in many particulars, have introduced descriptions of improved methods of analysis, and have added to the chapters on sewage and the analysis of foods much new matter, so that the student and public health officers may be certain of finding the most recent views upon these subjects. In the chapter on foods there is an account of the methods to be adopted in the examination of preserves and of ice cream, and the methods of examining other articles has been elaborated. An entirely new chapter on chemical disinfectants adds much to the value of the volume, for it includes several pages devoted to a description of the most recent processes adopted in the standardization of disinfectants. Apart from the question of standardization, the authors consider that a disinfectant should be non-poisonous when diluted to its working strength, and should, if for general use, not resemble any potable liquid in appearance or smell, that it should not attack metal or glass, and should not destroy or stain linen, etc. If intended to be used for the disinfection of the skin, it should not be irritating, and should not be absorbed to any appreciable extent from abrasions or wounds. If emulsified in working dilutions, it should not separate out to any appreciable extent in twenty-four hours in a long cylinder such as a mixing jar.

Any one interested in the fascinating group of plant organisms—the liverworts—will welcome Sir EDWARD FRY'S little book, or "small essay," as the author would doubtless call it, on *The Liverworts, British and Foreign*.[12] It is a companion volume to that on British mosses by the same author, a second edition of which appeared in 1908. The liverworts are of more than ordinary interest from an evolutionary point of view, since they appear to be transitional forms between the algae and the true mosses. Moreover their great heterogeneity is in itself attractive, for, as the author says, they "present to one's mind the idea of a crowd of organisms which have not made up their minds in which line they shall go, and which are trying experiments in all directions to see which is best for them to take." Well written and easily understandable, it is not a mere popular account of the group but a serious contribution. To any one in search of a hobby we can thoroughly recommend the liverworts, and we can recommend this book to commence with, a very elementary previous knowledge of botany being required. The production of a book of this character and of its forerunner by one who has led such an active and busy life is in itself a fact of which the author may be proud; it is evidently a hobby which has become a "labour of love." A word of congratulation is also due to his daughter, Miss Agnes Fry, for the illustrations, and to her active co-operation the author bears testimony.

Among the papers contained in the latest issue of the *Transactions of the American Climatological Association*[13] tuberculosis bulks less largely than on some previous occasions. Several papers deal with pure climatological questions, notable among them being the address of the president, Dr. A. D. Blackader, on the advantages of residence in a cold, dry climate in the treatment of some forms of disease. Dr. J. M. Anders puts in a plea for inclusion of the subject of climatology in the curriculum of medical students in America, and Dr. H. L. Barnes deals with the occurrence of pneumonia in open-air sanatoriums. In a paper on tuberculosis dispensaries Dr. Cleave Floyd concludes that their work cannot be measured in terms of "cases cured," their usefulness being almost entirely along the lines of diagnosis, isolation, and prevention.

[8] *Cerebellar Functions.* By Dr. André-Thomas. Translated by W. Conyers Herring, M.D., N.Y. Nervous and Mental Disease Monograph Series, No. 12. New York: The Journal of Nervous and Mental Disease Publishing Company. 1912. (Roy. 8vo, pp. 225. Price $3.00.)

[9] *The Medical Annual.* Thirty-first Year. 1913. Bristol: John Wright and Sons, Limited. (Demy 8vo, pp. 702. Price 8s. 6d. net.)

[10] *The Transactions of the American Laryngological Association.* New York: Published by the Association. 1912. (Med. 8vo, pp. 358.)

[11] *The Sanitary Officer's Handbook of Practical Hygiene.* By W. W. O. Beveridge, D.S.O., Lieutenant-Colonel R.A.M.C., and C. F. Wanhill, Major R.A.M.C. Second edition. London: Edward Arnold. 1912. (Cr. 8vo., pp. 244, interleaved with blank pages for notes. 6s. net.)

[12] *The Liverworts, British and Foreign.* By the Right Hon. Sir Edward Fry, G.C.B., and Agnes Fry. London: Witherby and Co. 1911. (Cr. 8vo, pp. 82. 2s. 6d.)

[13] *Transactions of the American Climatological Association.* For the year 1912. Vol. xxviii. Philadelphia: Printed for the Association. 1912. (Med. 8vo, pp. 380.)

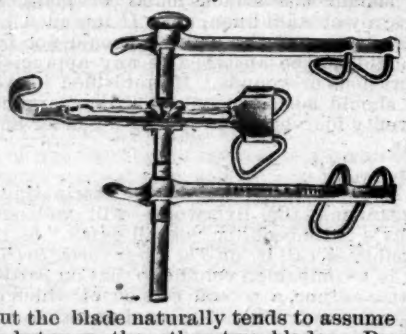
The somewhat belated issue of the *Proceedings of the Canal Zone Medical Association*[14] for the half-year ending September, 1911, contains some twenty-two papers. About ten belong to the field of tropical medicine, while the rest are of a miscellaneous order. Among the former is an excellent summary of existing knowledge on the subject of oriental sore by Dr. S. T. Darling. It would appear that only four cases in which diagnosis has been confirmed by microscopic examination have so far been recorded in the new world. A case was reported in Brazil, however, as early as 1896, and there is ground for believing that in the tropical regions of America it is a commoner condition than has hitherto been recognized.

[14] *Proceedings of the Canal Zone Medical Association*. For the half-year April to September, 1911. Vol. iv, part 1. I.C.C. Press; Quartermaster's Department, Mount Hope, Canal Zone. (Med. 8vo, pp. 238.)

MEDICAL AND SURGICAL APPLIANCES.

An Abdominal Retractor.

DR. LAURENCE C. PANTING, of Truro, has designed a retractor consisting of the well-known Gossett Retractor with the addition of a third blade, which, while securing retraction of the lower part of the wound when pulled upon by a piece of stout silk or rubber tubing, has the additional advantage of fixing the instrument firmly. This third blade can by slightly relaxing the screw shown in the illustration be moved backwards or forwards, or completely removed, while by tightening the screw it is firmly fixed in any desired position by bringing into apposition two corrugated surfaces. Lateral movement is not restrained, but the blade naturally tends to assume a position midway between the other two blades. Dr. Panting, who has had the instrument in frequent use for the last eighteen months, finds that it has entirely fulfilled his expectations. It has been made by Messrs. Allen and Hanburys.



A Vaginal Clamp for Wertheim's Hysterectomy.

Mr. J. BASIL HALL, F.R.C.S. (Bradford), writes: The accompanying illustration shows a clamp for the vagina in cases of Wertheim's hysterectomy which Messrs. Down Bros. have made for me. If any excuse is necessary for the introduction of such an instrument, it may be found in the fact that on a recent visit to London Mr. Down showed me some half-dozen experimental designs of instruments intended for that purpose. Moreover, every operator whom I have consulted has confessed that he has found much difficulty in the universal application of any of the clamps at present in use. My own personal experience of these instruments has been most unsatisfactory. The application of the clamp I have designed is very simple. When the uterus is isolated from all its attachments and the vagina is freely exposed, the jaws of the clamp are opened and passed over the fundus uteri. The uterus is then slipped through the fenestration of one of the jaws (preferably the anterior) and the clamp is pushed down until the transverse limbs of the jaws lie across the upper end of the vagina, when the clamp is closed. All septic discharge is thereby shut off from the operation field, and at the same time the instrument can be used as an efficient tractor, and slipping is impossible. The width of the jaws at the widest point is 3 in., which allows plenty of room for any manipulations in the pelvis. The instrument can be used for any case except one in which a large fibroid coexists with malignant disease, when the fibroid must first be enucleated. I have only used this instrument twice, but it acted admirably on both occasions. Dr. Oldfield of Leeds has also used it twice, and speaks most favourably of it. I am confident that it will prove of great value in the successful accomplishment of the operation for which it was designed.

THE LISTER MEMORIAL FUND.

IN addition to the committees which have been formed by the Universities of Oxford, Cambridge, and Durham in support of the Lister Memorial Fund, other universities are taking steps to promote the success of the memorial, and arrangements have been made for the formation of committees in the British Dominions beyond the seas and in foreign countries.

The proposal is that the memorial shall be of a threefold character, and consist of (1) a simple marble medallion bearing a sculptured portrait of Lord Lister to be placed in Westminster Abbey among the monuments of the nation's illustrious dead; (2) a larger and more conspicuous monument to be erected in some public place in London; and (3) the founding of an International Memorial Fund, from which either grants in aid of researches bearing on surgery or rewards in recognition of important contributions to surgical science will be made, irrespective of nationality. A considerable sum of money is required to carry out these proposals. Donations should be sent to the Treasurers of the Lister Memorial Fund at the Royal Society, Burlington House, London, W.

Among the subscriptions recently received are the following: Clothworkers' Company £100, Grocers' Company £52 10s., Ironmongers' Company £25, Mercers' Company £105, Merchant Taylors' Company £262 10s., Skinners' Company £105, Society of Apothecaries £52 10s., Corporation of the City of Glasgow £52 10s., Royal College of Physicians £21, Royal College of Surgeons £52 10s., Royal Dublin Society £50, Royal Horticultural Society £52 10s., the Royal Society £50, Pharmaceutical Society £10 10s., Physiological Society £10 10s., Royal Microscopical Society £5 5s., Royal Sanitary Institute £5 5s., the Manchester Co-operative Wholesale Society £21.

The following medical societies have subscribed the amounts stated:

	£	s.	d.
Aldershot Medical Committee	1	12	6
Bedford Medical Committee	2	2	0
Bolton Medical Committee	2	2	0
Cardiff Medical Committee	5	5	0
Devon and Exeter Medico-Chirurgical Society	2	2	0
Eastbourne Medical Society	10	10	0
Folkestone Medical Society	1	1	0
Halifax Medical Society	2	2	0
Harveian Society (London)	10	10	0
Huddersfield Medical Society	5	5	0
Jersey Medical Society	5	5	0
Leicester Medical Society	3	3	0
Manchester Medical Society	3	3	0
Newcastle-on-Tyne Clinical Society ...	5	5	0
Reading Pathological Society	2	2	0
Rochdale Medical Society	1	1	0
Southampton Medical Society	2	2	0
Southport Medical Society	3	3	0
Torquay Medical Society	3	3	0
York Medical Society	2	2	0

Lord Strathcona has sent a donation of £100, and Professor Ehrlich, of Frankfort, a donation of 500 marks.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.

THE thirtieth annual meeting of this society was held at the rooms of the Medical Society of London on April 3rd, under the presidency of Dr. F. J. ALLAN, Chairman of the Executive Committee.

CHAIRMAN'S ADDRESS.

The CHAIRMAN congratulated the members on another year of successful work. During the year the society had received 179 new proposals, 81 proposals for additional sickness benefit, and now numbered 3,112 members, a net increase of 74. In 1912 the society had paid away in sickness and accident benefit £17,339; the margin between that sum and the amount received for premiums was comparatively small. In the earlier days of the society, when most of the members were under 30 years of age, the amount of sickness experienced was naturally not so great as must be experienced when the members reached a more advanced age. From statistics prepared by Mr. Addiscott showing the amount of sickness experienced in

periods of five years it was seen that during the past five years the amount had very nearly reached the expected amount of sickness allowed for in the tables. He thought the society was nearing a time when the sickness expenditure might be fairly regular, but he considered it probable that it would be somewhat higher than it was at the present time in proportion to the premiums. In one of the last five years the sickness experienced had exceeded the expectations by 6 per cent. The society gave members greater value for their money than any other company could offer them. On looking through the prospectuses of a number of companies doing similar work he found that the sickness benefit ceased at 60 years of age instead of 65, and that the sick pay was for twenty-six weeks, instead of during the full period of incapacity, as provided by the society, and further that the contracts of the companies were terminable at the end of any year if the company desired it, whereas the contracts with the society could not be annulled so long as the member complied with the rules. Another point was that the premiums were not so moderate as those of the society. The society did not discard a man who became permanently ill, as was shown by the fact that there were at present not less than 49 chronic cases receiving very nearly £4,000 a year; 6 had been drawing sick pay for twelve years. In some instances the sick pay received by members was the sole source of income. Owing to the depreciation in stocks, the committee had thought it advisable to write down the securities by £6,830, thus bringing them to the market price at the close of the year; it was hoped, however, that the low price of stocks would not always continue. One of the reasons why the society could afford to offer the advantages it did at such low rates was that there were no shareholders for whom a profit had to be earned; another reason was that the management expenses were extremely low, as the committee, the treasurers, and trustees gave their services without remuneration. He regretted to inform the members that they were about to lose Dr. G. E. Herman and Dr. F. S. Palmer, who had acted as treasurers of the society for a considerable time; they had both been very zealous in carrying out their duties and in many other ways had been of very great assistance to the society. Certain changes in the staff had taken place during the past year. Mr. Addiscott had retired from the position of secretary, and had been succeeded by Mr Sutton; the committee, however, had been able to retain Mr. Addiscott's services as actuary. It appeared that some members were under the impression that a bonus was paid every five years, but he desired to state clearly that no such promise was ever made by the society. On some occasions bonuses had been paid; at the present time members reaching the age of 65 were granted bonuses, and in the case of members dying before the age limit the bonus was paid to the relative, but the society gave no guarantee that this state of affairs would continue. He hoped the members would bring the advantages offered by the society to the notice of their friends.

Dr. VINRACE said he had hoped that by some arrangement the society would have been able to continue to pay benefits to members as long as they lived, and not leave off at 65 as at present.

After answering certain other questions in connexion with the report the CHAIRMAN moved:

> That the report of the Committee and the audited accounts for the twelve months ending December 31st, 1912, be received.

The motion having been seconded by Dr. PICKETT was carried.

Election of Officers.

The list of officers for the ensuing year submitted to the meeting by the Committee was approved.

Votes of Thanks.

On the motion of Dr. BRINDLEY JAMES, seconded by Dr. DE HAVILLAND HALL, a vote of thanks was accorded to Dr. Herman and Dr. Palmer for the services they had rendered to the society.

The CHAIRMAN proposed a vote of thanks to the BRITISH MEDICAL JOURNAL, the *Lancet* and the *Medical Press and Circular*, for publishing reports of the proceedings of the society, which was carried.

Dr. VINRACE proposed, and Dr. BRINDLEY JAMES seconded, a vote of thanks to the Chairman for the very able manner in which he had conducted the business of the society; this was carried, and the Chairman's response closed the proceedings.

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY MEDICINES.

STEEDMAN'S SOOTHING POWDERS.

ON April 3rd further evidence was given with regard to a booklet entitled, "Hints to Mothers, by M.D. of London," issued by the proprietors of Steedman's Soothing Powders. Earlier evidence with regard to this matter was reported in the BRITISH MEDICAL JOURNAL of February 15th, 1913, p. 349.

Mr. Uredenburg, the literary representative of Messrs. Raphael Tuck and Co., gave evidence that he wrote the health hints contained in the book, obtaining his information from various encyclopaedias and popular medical works. He then submitted the matter to his own medical attendant, who, in returning the manuscript, wrote: "I have to congratulate you upon having written a very up-to-date little book. I really find nothing to object to in it from beginning to end, and indeed nothing of importance to add to it. . . . I presume it is not necessary for my name to be put on the book, as some of my professional brethren would object to that, and call it a form of advertisement. I, however, thoroughly approve of the book." The witness said he explained to the doctor that the book was written on behalf of an advertising firm. The matter was next sent to Messrs. Steedman, and the references to the soothing powders were inserted according to their instructions. The manuscript, as amended, was not, however, resubmitted to the doctor.

The Chairman intimated that having received the doctor's name from Messrs. Steedman, a communication had been sent and a letter had been received from him bearing out the evidence just given, and strongly protesting against his name being introduced in connexion with the booklet.

In reply to Mr. Glyn-Jones, the witness said that he did not tell his medical man precisely to what use the matter submitted to him was to be put, as he himself did not know at that time. He was certain the doctor did not see the matter after the references to Steedman's powders had been inserted, although Messrs. Steedman might have been under the impression that he did.

Mr. J. A. South, manager of Messrs. Steedman, Limited, was then recalled, and reminded by the Chairman of his previous statements with regard to the book purporting to be written by an M.D. of London, and that if the doctor did not write the whole of it, it was certainly submitted to him. The witness said he had since sent a letter to the Committee correcting that statement. He read correspondence from Messrs. Tuck to the effect that they had been successful in getting an M.D. to approve of the following words appearing on the title page of the book: "Compiled from the works of the highest medical authorities and revised by an M.D." The letters made it clear that the name of the medical man must not appear in the transaction. The witness added that when his firm asked for a proof that the doctor knew that their advertisements would appear in the book amongst the matter for which he made himself responsible, the letter read by the last witness was shown to them. He regarded the use of the word "advertisement" in that letter as implying that the doctor fully understood that the booklet was an advertising one, and as the date was subsequent to the insertion of references to the soothing powders he took it for granted that the manuscript had been resubmitted to the doctor.

Dr. Chapple remarked that the doctor's use of the word "advertisement" referred to the advertisement of his own name, and not to the advertising use of the booklet.

The Chairman: You know generally what are the relations of the medical profession and medicines of this kind. Is it possible that a medical man of good standing would lend his support to a book that was from beginning to end an advertisement of a proprietary medicine?

The Witness: You think medical etiquette would not allow him to do it?

The Chairman: Of course I do.

The Witness: I think there are higher motives. The doctor might think it would be for the benefit of humanity, having regard to the value of Steedman's powders.

The Chairman: Have you met any doctor who would do that for a proprietary medicine?—I do not know that I have.

In reply to a further question, the witness agreed that his only ground for believing that the doctor had seen the booklet in its complete form was the inference he drew from the last sentence of the letter. Directly Messrs. Steedman learnt that they were incorrect in the supposition that a medical man vouched for the complete work they withdrew the booklet from circulation; those in stock were being destroyed.

Dealing with the evidence given on the previous occasion as to the composition of Steedman's powders, the Chairman reminded the witness that Mr. Hake, on behalf of the company, stated that the analysis of the powders given in *Secret Remedies* was incorrect. Packets of the preparation had been submitted to the Government analyst, and the Chairman asked the witness whether he had any objection to the report being read.

Mr. South: I should certainly object to your reading it, and I should object to saying if it is right or not.

The Chairman: I will not read it at the moment, and the Committee will reserve its decision on the matter.

Headache Powders.

Mr. John Lawson, manager of Daisy, Limited, Leeds, proprietors of the Daisy cure for headaches, gave evidence as to the use of acetanilide and phenacetin in headache and neuralgia powders. He said that nine headache and neuralgia powders were reported on in *Secret Remedies*, and of these six had little sale. Following the more stringent administration of the medicine stamp duty, his firm prepared, in addition to the headache cure, a head powder which could be sold by unlicensed shopkeepers. They had been reluctant to introduce this, and had suggested to the Board of Inland Revenue that the sale of head powders should be prohibited except by licensed vendors; competition, however, had compelled them to put the powder on the market. The Inland Revenue authorities stipulated that the ingredients of the head powder should be essentially different from those of the Daisy cure, and therefore phenacetin, instead of acetanilide, was used. The witness quoted a number of medical opinions in favour of the use of acetanilide and phenacetin for headache and neuralgia, in opposition to the evidence given by Professor Dixon that acetanilide ought never to be used under any circumstances and that no medical man would now prescribe it. He submitted that the Registrar-General's return for the last ten years did not support Professor Dixon's statement that many deaths had been due to the taking of this drug. The dose of acetanilide in each Daisy powder was 5 grains; this was the quantity their experience showed to be necessary to cure the pain in an adult. The *British Pharmacopoeia* dose was 3 grains, but in the previous edition it had been 10 grains. He did not think it would be in the public interest, when this drug and similar ones were present in a proprietary medicine, that the fact should be stated on the label. The public would learn that acetanilide was the usual remedy for headache and neuralgia, and persons of a saving disposition might buy it in large quantities and do their own dispensing, with the result that variable doses would be taken.

The Chairman: Your argument suggests that any drug recommended in a medical textbook as suitable to be prescribed by a doctor after diagnosis may properly be sold broadcast to the public under a fancy name for purposes of self-medication?

The Witness: I see no objection.

Mr. Harry Lawson asked if the witness had heard of any protests from the medical profession against the use of the headache powders. He replied that there had been general criticisms, and endorsed a remark by Mr. Lawson that the medical press advertised a similar preparation to the Daisy powder under another name. He added that under the Insurance Act doctors were prescribing phenacetin very widely, and to a less extent acetanilide.

A CASE OF MIRBANE POISONING.

Dr. Graham Grant sends us the following note on a case of poisoning by mirbane or nitro-benzene which recently came under his observation:

Nitro-benzene, or mirbane, possesses a strong and pleasant odour of bitter almonds; its taste is not at all unpleasant; it is yellowish-brown in colour, and a statement that the liquid might be diluted and consumed as a beverage might not appear improbable to ignorant persons. It is being sold in the commercial world by the gallon and without restriction.

A. B. collects waste paper in city offices. He found while doing so four small bottles, which he carried into the street and showed to an inquisitive passer-by, who offered the opinion that the stuff was a good spirit for cleaning clothes. This view was accepted by several persons, and a boy obtained one of the bottles, which he gave to C. D., telling him it was "a good spirit," but, according to C. D., he did not add "for cleaning clothes." The latter took it home and placed it on the chest of drawers. Two days later he suggested to his wife, who had been ill for some time, that a little of the contents might do her good. He gave her some and took some himself; how much can only be surmised from the fact that it was a 2-oz. bottle; if it was full at the time, they must have drunk about ½ oz. between them, as there was 1½ oz. left. This took place at about 10.30 p.m., and I was called at 11.15 by the landlord. On my arrival I found the man of an ashy pale colour and much distressed; the pulse was weak, the pupils were somewhat dilated and equal; in mind he was rational. I instructed a constable to give him an emetic of salt and water while I turned my attention to the woman. She was comatose, deeply cyanosed, the pulse was almost imperceptible, and the breathing stertorous. The breath of both smelt strongly of bitter almonds. I washed out the woman's stomach with salt and water and injected strychnine subcutaneously, but she was clearly past aid and died at 11.45. The man had copious emesis and the vomit had the characteristic smell. I decided to send him to the infirmary on an ambulance, but as soon as we attempted to move him he collapsed and had to be carried downstairs.

By the coroner's order I made a *post-mortem* examination and found evidence of alcoholism, some atheroma of the aorta, chronic bronchitis, and nephritis, but these conditions were not sufficiently advanced to have had a material influence in bringing about the death. There were numerous points of congestion in the brain and an excess of fluid in the ventricles. The blood was of a magenta colour and coagulation absent; it seemed also to be greasy. The examination showed nothing more of interest.

At the inquest the man C. D. gave evidence, generally to the effect I have indicated, till he was asked "Was the taste unpleasant?" To this he was unable to give a definite answer, and to settle the point I tasted it myself. I did so by inverting the bottle on my finger tip, which took up probably about two drops (I am open to correction as to the amount). At first I was only able to say "It was a sweet burning taste, and not repellent." The coroner suggested that perhaps I had not taken enough; but I subsequently found he was wrong in that respect. In a few minutes I felt a numbness of the tongue—somewhat like that produced by cocaine; this was followed by salivation. I experienced slight swimming in the head—I thought for the moment the court was too warm—but this passed away while I was giving evidence, and may, perhaps, have been due to the smell rather than the taste. I tasted the mirbane at 11 a.m., the vertigo was transient; the salivation lasted about an hour, and the numbness of the tongue about three hours.

As the coroner remarked, "This is a case of great public importance, and the sooner mirbane is placed on the poisons list the better," with which opinion I think all will agree.

According to Thorpe's *Dictionary of Applied Chemistry*, 1912, mirbane, or *essence de myrbane*, was first manufactured in France by Collas. It was used to scent soap and as a bitter almond flavouring. It is chemically nitro-benzene, more commonly spoken of as nitro-benzol. Dr. J. C. Cain, the author of the article in Thorpe's *Dictionary*,

states as follows: "When the nitro-benzol is to be sold as 'mirbane' it is distilled under diminished pressure in order to obtain a perfectly clear and transparent liquid such as the users of myrbane demand. It is customary to use toluene imperfectly freed from benzene for this purpose, that article being cheaper and yielding a somewhat more fragrant myrbane than benzene alone." In *Poisons: their Effects and Detection*, by A. and M. Wynter Blyth, it is stated that 1 gram (15.4 grains) would probably be sufficient to kill an adult, and that spirituous liquids especially hasten and intensify the action of nitro-benzene, so that a drunken person, *caeteris paribus*, taking the poison with spirits would be more affected than taking it under other conditions. In one case which occurred in Vienna a woman who took about three and a half ounces, and was admitted into hospital in a highly cyanotic condition with small pulse and superficial respiration, eventually recovered. It is stated that the more characteristic pathological appearances seem to be dark brown or even black colour of the blood, which coagulates with difficulty, venous hyperaemia of the brain and its membranes, and general venous engorgement. The blood gives the spectrum of acid haematin; its power of carrying and imparting oxygen to the tissues is diminished, and its content of carbon dioxide increased. It is further stated that on drinking the poison there is a burning taste in the mouth shortly followed by very striking blue or purple appearance of the lips, tongue, skin, nails, and even the conjunctivae. Discoloration may precede vomiting by as long as an hour; the skin becomes cold, there is great depression, the pulse is small and weak, and the breathing slow and irregular; this is followed by the sudden development of unconsciousness, and the whole condition may closely resemble apoplectic coma. The shortest period mentioned in which nitro-benzene has caused death is four or five hours. Inhalation of the vapour of nitro-benzene produces symptoms similar to those of alcoholic intoxication deepening into a coma. "Benzene Collas" used to be, and perhaps still is, a very popular domestic application for taking grease spots out of cloth.

MOTOR CARS FOR MEDICAL MEN.

A FEW SIMPLE AND USEFUL CALCULATIONS FOR MOTORISTS.

By R. BRUCE FERGUSON, M.A., M.D.Cantab., D.P.H.

IN these days when so many motorists are their own chauffeurs, and even mechanics, it is always interesting and often useful to compare notes with one's friends regarding the expenses, actual performances, or potential possibilities of one's car. To enable one to do so satisfactorily figures are essential, and for this purpose a few simple examples are given below, in the hope they may prove of some slight assistance.

Horse Power and Insurance Premiums.

A few years ago a friend purchased a small car. The makers' rating was 8-h.p., and at this figure he insured it. He afterwards discovered that he might have exercised the option of selecting either the makers' rating or the R.A.C. (Treasury) rating, which is calculated according to the following formula:

$$\text{H.P.} = \frac{d^2 \times n}{2.5}$$

where d = diameter of cylinder in inches, and n = number of cylinders.

In his case the number of cylinders was 2, and their diameter 75 mm., and taking the usually-adopted computation of 25 mm. to the inch, he estimated the horse-power as $\frac{(3)^2 \times 2}{2.5} = 7.2$, and insured his car the next year as a 7-h.p., thus saving 8s. Before his next premium was due I pointed out to him that his inaccurate assumption of 25 mm. making an inch was costing him annually more than the price of his driver's licence, and that the correct figure was 1 mm. = 0.03937 inch. The formula thus becomes:

$$\frac{(0.03937 \times d)^2 \times n}{2.5}$$ where d = diameter in millimetres.

When simplified this will read: $\frac{d^2 \times n}{1613}$

The horse-power of his car is therefore $\frac{(75)^2 \times 2}{1613} = 6.98$.

Since the insurance company neglects fractions of a horse-power, he now insures it as a 6-h.p. car, and saves a further sum of 6s. every year.

Ton-miles per Gallon.

The comparison of the merits of two cars by the number of miles they will run on a gallon of petrol is not an entirely satisfactory method, since it fails to take into account the weight of the car, accessories, and passengers. It is better to estimate the number of ton-miles per gallon.

If P = weight in pounds of car, accessories, and passengers, M = the number of miles run, and G = the number of gallons of petrol used, then P × M = the number of pound-miles, and $\frac{\text{P} \times \text{M}}{2240}$ = the number of ton-miles obtained from G gallons, and $\frac{\text{P} \times \text{M}}{2240 \times \text{G}}$ = the number of ton-miles per gallon.

Volume Swept Out by the Pistons at Each Revolution.

This is simply the estimation of the cubic contents of that portion of the cylinder in which the piston moves.

If d = diameter of cylinder in millimetres, and s = length of piston-stroke in millimetres, then the sectional area of the cylinder will be $d^2 \times 0.7854$ square mm., and the cubic contents will be $d^2 \times 0.7854 \times s$ cubic mm., or

$$\frac{d^2 \times 0.7854 \times s}{1000}$$ cubic centimetres, or

$$\frac{d^2 \times 0.7854 \times s \times 0.061}{1000}$$ cubic inches.

The latter may also be expressed as $d^2 \times s \times 0.000048$ cubic inches.

To obtain the total volume, multiply finally by the number of cylinders.

A Problem in Tyre Sizes.

As the matter of tyre sizes is one which, to my knowledge, puzzles many a motorist, an example on the subject may not be deemed out of place.

One very hot summer's day I found a friend making heroic but ineffectual attempts to place upon a front wheel a tyre which he had just removed from a back one. It was then discovered that the tyre previously on the front was a 30 × 3 in., whilst the back tyre, which it was now wished to place on the front, was a 30 × 3½ in. It was argued that the latter should go on the front wheel easily, since it was the larger tyre; but therein lies the fallacy, for it is only larger in the sense that it will hold more air, the sectional areas of the two tyres varying as the squares of their diameters, namely;

As $(3)^2 : (3\frac{1}{2})^2$; or as 36 : 49.

The larger tyre thus holds 36 per cent. more air than the smaller. In other respects, however, the 3½ in. tyre is smaller than the 3 in., as can be easily demonstrated. A "30 inch tyre" means that when the tyre is on the wheel and fully inflated, a vertical line dropped from the highest point of the tyre to the ground measures 30 in. If the depth of the tyre be 3 in. at the top and 3 in. at the bottom, the diameter of the wheel itself (without the tyre) measured from rim to rim will be 30 − (2 × 3) = 24 in. If, however, the depth of the tyre be 3½ in., the wheel itself can only have a diameter of 30 − (2 × 3½) = 23 in., and on actual measurement this was shown to be the case, the back wheel being the smaller of the two. The failure of the effort was thus due to the attempt to place upon a 24-in. wheel a tyre which was made for a 23-in. wheel.

It will be readily seen that a 710 × 90 mm. tyre can replace a 700 × 85 mm., since in each case the rim-to-rim diameter will be 530 mm.

For example, 710 − (90 × 2) = 530 in the former, and 700 − (85 × 2) = 530 in the latter.

Similarly, 760 × 90 is interchangeable with 750 × 85, and also 810 × 90 with 800 × 85.

The fact that it is occasionally possible to stretch a tyre on to a wheel slightly too large for it does not in any way affect the accuracy of the explanation given above.

THE National Health Society, 53, Berners Street, has recently issued a kind of poster, price 1d., containing a series of hints in regard to keeping houses and their inhabitants healthy. Recollection of them is facilitated by their being given in rhymed verse, and with one single exception the statements made all seem undeniably sound; while, in respect both of rhythm and rhyme, the author, "F. L.," is fully entitled to hold up his head in the company of the minor poets of the age.

LITERARY NOTES.

Professor Saundby of Birmingham has in the press a new work on *Old Age: Its Care and Treatment in Health and Disease.* It will be published shortly by Mr. Edward Arnold.

Messrs. William Hodge and Company, Edinburgh and London, announce for early publication a new volume in their series of Notable English Trials. It is entitled *The Trial of Dr. Lamson*, and is edited by Hamilton Adam, who is the author of several well known works on criminology. Dr. Lamson was tried in the year 1882 for the murder of his nephew, Percy Malcolm John. This is one of the few cases recorded in which the poison used was aconitine. The trial took place before the late Mr. Justice Hawkins, and resulted in the condemnation of the prisoner. The volume will be illustrated with portraits of the prisoner and counsel engaged in the trial.

Mr. Alban Doran has contributed to the *Journal of Obstetrics*, under the title "Burton (Dr. Slop), his Forceps and his Foes," a very interesting account of the life and fortunes of Dr. John Burton of York, who was born in 1710 and died in 1771. Mr. Doran summarizes Burton's work, and gives many quotations from his *Essay on Midwifry*, his letter to Dr. Smellie, his *Treatise on the Non Naturals*, and his *British Liberty Endangered*, with the account of his persecution by the Whigs, Dr. Jaques Sterne and Laurence Sterne. The article contains also a full and interesting analysis of the passages on Dr. Slop in *Tristram Shandy*, and it is shown that the curse of Ernulphus was probably a parody on the letter to Smellie—both being curses all through. The so-called Burton's forceps figured in his *Essay on Midwifry*, and the forceps used by Burton himself are illustrated, and it is seen that they are not the same instrument—the latter is preserved in the library of the York Medical Society. We understand that Dr. Auden first recognized the fact that Burton apparently did not use the forceps which he invented.

In the article on the origin of the name Livingstone published on March 29th, p. 676, there is a misprint, *séin* should be *féin*. The correspondent who called attention to this misprint also expresses the opinion that the correct translation of *Mac an leigh* given by Dr. Maclean as "Son of the physician" should be "The son of the leech," or physician, or, as one might say, Leechson.

Shakespeare's Holofernes would have found his intellectual nose sorely offended at the present day, when the smell of false Latin rises thick from popular books and periodicals. Medicine is supposed to be a "learned" profession, but alas! our literature is full of awful examples of what it would be an insult to a noble animal to call dog Latin. The most recent we have come across occurs in the *St. Bartholomew's Hospital Journal* for January, where there is an allusion to the "hausti" of that venerable institution with which so many scholarly men have been associated. How much scratching of Priscian's head has the Latin fourth declension caused! It is only fair to say that there has of late years been considerable improvement in regard to this particular barbarism. *Meati*, which at one time used to be common, has almost ceased to vex those who have retained some faint recollection of the Latin grammar. The same may be said even more emphatically of *apparati*. We are not of those who insist on pedantic adherence to the classical plural in words such as "sanatorium" and "serum," which have acquired the freedom of the city in our English speech. But such monstrosities as "hausti" create new words which are neither Latin nor English, and are merely illiterate. These errors, unfortunately, do not stand alone. To quote only a few recently met with in medical journals: we not long ago found mention of a condition called *diverticula spuria intestinalis;* an Indian journal referred to an *apologium;* a French one described a book as written *in usum medicis;* while an English contemporary produced the following remarkable variant of a common phrase, "*Concilium vult decepi*, and *decepi* it will be"! From a casual inspection of American periodicals, we cull the following flowers of classical speech: *corpus cavernosus* and *angina pectorides;* while a leading journal of surgery contained a paper with the remarkable title, "A Résumé of the Treatment of *Infertilis Masculinus*"! But medical journals are not the only or the worst offenders. One of our great Radical dailies quite lately spoke of an *annus mirabile*, while, as if to balance the distribution of ignorance, a Conservative paper told us, after an unsuccessful election, that the voters of its own political complexion *militavunt non sine gloria*. Such a heading as *De res medici*, which appeared recently in the most important Liberal paper of Spain, may be dismissed with a shrug of the shoulders, but we confess we were shocked to come across such a phrase as *vulgum pecus* in that very superior paper *Le Temps*. This solecism, however, seems less surprising when we recall that it was in *Le Temps* that the amazing injunction *Reddate Caesaro quod est Caesari* appeared some years ago. A French writer has put into the mouth of Abelard the un-Horatian prophecy, *Non omnis moribor;* another, with a vague recollection of the Vulgate, declares that there is *nil novo sub soli*, while a third shows his knowledge of the same version of the Scripture by quoting a familiar text in the novel form, *regnum meum non est ex hoc saeculi*. A paraphrase of Wellington's advice to speakers, "Say what you have to say; *don't quote Latin;* and sit down," would be a useful guide to writers.

The depopulation of France, caused by the steady decline in the birth-rate of that country, has given rise to much anxiety amongst the thinking portion of the French nation. Numerous remedies have been proposed to check the growth of this grave social evil, but as yet none have produced any marked effect; and French politicians at the present moment are face to face with a danger they are apparently powerless to combat. M. Henri Meurisse, who has contributed an interesting article on the subject to the March number of *L'Hygiène*, quotes several of the foremost medical men in France, who are nearly all agreed that the decay of religion and the increased luxury and cost of living lie at the root of the trouble that is slowly draining France of her life-blood. In the country districts, where the peasants still cling to their ancient faith, large families are even yet the rule rather than the exception, but elsewhere they are almost unknown, thanks to the spirit of an age that places creature comforts before the joys of family life. Amongst the French working classes compulsory education, combined with military service, have also done much to lower the birth-rate, since both prevent the child supporting himself, and cause him to be a burden on his parents long past the age when an earlier generation was earning its own living in the workshop or the field. It is difficult to see how to grapple with a problem that is the inevitable result of a high degree of civilization, and which, it is hardly necessary to add, affects us almost as closely as our neighbours across the Channel. Legislation is powerless to cope with a situation brought about by the improvement of the individual at the expense of the race; and it needs something more than the endowment of parenthood to overcome the reluctance of the modern woman to face the risks of maternity and induce her husband to burden himself with the full responsibilities of married life. The same number of *L'Hygiène* also contains a charming description by M. André Maurel of the principal galleries and monuments of Florence, and a short article by M. Fabre-Domergue on the bedding of oysters.

The April number of *Bedrock*, among other articles, contains the following: Modern materialism, by W. McDougall, M.B.; mimicry, mutation, and Mendelism, by Professor E. B. Poulton; immunity and natural selection, by Dr. Archdall Reid; the suppression of venereal diseases, by Dr. James W. Barrett, who gives an interesting account of the measures taken to that end in Melbourne; and the milk problem, with special reference to supply, by Dr. Eric Pritchard. There is also a very pretty quarrel on telepathy as a fact of experience between Sir Oliver Lodge and Sir E. Ray Lankester, in which these doughty champions exchange many shrewd thrusts. While acknowledging the logical subtlety of Sir Oliver Lodge, our sympathies are with Sir E. Ray Lankester, who takes up the position that the existence of telepathy has still to be proved scientifically. Till the fact is established it seems futile to discuss its *a priori* possibility.

British Medical Journal.

SATURDAY, APRIL 12TH, 1913.

MEDICAL CERTIFICATES UNDER THE INSURANCE ACT.

IN the JOURNAL of March 22nd a note was given (p. 640) of a case heard in the King's Bench Division on March 8th, before Mr. Justice Bailhache, in which an insured person sued for a declaration that a resolution passed by his approved society preventing the society from accepting, as evidence of the incapacity of its members within the meaning of the National Insurance Act, 1911, certificates of medical practitioners not on the panel was illegal, *ultra vires*, and unenforceable. The action was dismissed with costs, the judge stating that the case was one which ought to be decided under Section 67 of the National Insurance Act by arbitration. The credit for bringing this important case before the courts is due to the London Committee, and we understand that it has entered an appeal.

This is a matter which deeply concerns not only the members of approved societies but the general public and the whole medical profession, and is a subject which ought immediately to have the serious attention of the medical corporations and the General Medical Council.

There is nothing in the National Insurance Act to support the contention that the medical certificates enabling insured persons to claim sickness and disablement benefit must necessarily be signed by a doctor who is on the panel, and it has been officially stated that the responsibility of deciding what kind of evidence approved societies will require before they pay sickness or disablement benefit to an insured person is a matter for the determination of the approved society alone. It is difficult to see on what grounds an approved society can hold that it is necessary that such certificates as it requires should be signed by a doctor on the panel. On a rough estimate the doctors on the panel comprise barely one half of the total profession in this country, and we have not heard it contended by the most ardent supporter of the Insurance Act that the doctors who are not serving under it are any less competent or any less likely to give a trustworthy certificate than those on the panel. The profession as a whole, quite irrespective of its views on the Insurance Act, will object strongly to a form of discrimination which by implication casts a reflection upon one section of the profession as compared with another. An approved society which is not satisfied with a certificate, whether given by a panel doctor or a doctor outside the panel, has its proper remedy. It can always claim to have the patient examined by a doctor of its own choice.

It is true that before the Act came into operation there were some clubs and friendly societies which insisted upon medical certificates coming from the doctor elected by the club. The situation is not now at all parallel. A doctor attending the insured person is not now employed by the club, and in some areas where a large majority of the doctors are on the panel it would seem that the approved societies will in fact be bound to accept the certificate of practically any medical practitioner. It seems clear that the fact that a medical practitioner is upon the *Medical Register*, and thus has the imprimatur of the State, should be a sufficient guarantee. If in the instance of any individual registered practitioner his actions prove that he cannot be trusted, there is a remedy which it is quite certain the General Medical Council will not be slow to enforce. If he comes under the censure of that body, he will either mend his ways or will cease to be competent to give a legal certificate. The discipline of the medical profession administered by the General Medical Council under the powers conferred upon it by Parliament is strict and strong enough to make it abundantly certain that the certificate of any registered practitioner may be taken for all the purposes of the National Insurance Act just as it is for the not less serious purposes of a court of law.

It may be anticipated that the licensing bodies will give early attention to this matter, which very nearly concerns the interests of a large number of their graduates, members, and licentiates, who will undoubtedly look to them to vindicate their rights. The claim now made by and on behalf of the approved societies seems to infringe the rights granted to these bodies by statute or charter. Time was when the chartered corporations were always ready to defend their privileges. For a generation they have been slow to move, owing probably to the defect in their constitution through which their numerous members and licentiates do not form part of the body corporate. Even the greatest sticklers for formality, however, admit that each college owes a duty to those admitted to the *Medical Register* on the evidence of its diploma, but they boggle at the next step, which is to take action with the other colleges when rights common to all diplomates are involved. We are quite prepared to be told that this is not a matter which can properly be raised through the press. So be it. But then let the diplomates of each corporation make representations each to his own college. That would be an entirely regular course, and such representations would not, we are certain, be ignored. If each college considered the matter and recorded its opinion, the General Medical Council will afford a common meeting place where combined action may be concerted.

The matter is one with which the General Medical Council cannot in any event fail to occupy itself, and we have no doubt that attention will be directed to it during the coming session. The Council has statutory powers, and has the duty of protecting the profession generally in the enjoyment of the rights and privileges, few as they are, conferred upon it by the Medical Acts. It would be very well if the representatives not only of the colleges, but of the universities also, came up to the May meeting in possession of the considered opinions of the bodies they severally represent.

THE INFECTIVE NATURE OF INFANTILE PARALYSIS.

PHYSICIANS who have studied the diseases of children have long assumed that infantile paralysis—or acute poliomyelitis, as it is better called—is an infectious disease. Until recently the grounds for this belief were the local and epidemic distribution of the cases, the frequency with which outbreaks occur at certain seasons—especially the early autumn—the

acute course of the febrile stage, and the inflammatory nature of the lesions revealed in the spinal cord by the microscope. In addition, the careful collection of the statistics of the epidemics and the study of the geographical distribution of the cases has helped to strengthen the evidence here. Dr. F. E. Batten has done much to bring home such knowledge to the members of the profession in this country. Yet, although various microbes had been associated with the disease by different observers, there was no unanimity of opinion as to the exact nature of the organism causing infantile paralysis until quite recently; and even now we are still in the dark as to many points connected with the life-history of the ultra-microscopic virus that is universally believed to be the infecting agent.

All the more recent work of the many bacteriologists on the Continent, in the United States, and in England who are engaged in this study may be said to be based on the researches of Landsteiner and Popper. In November, 1908, these authors produced in monkeys (a hamadryad and a macaque) a disease indistinguishable from infantile paralysis as we see it in children. The infecting agent they used was emulsion of the spinal cord taken from a boy of 9, who had succumbed in four days to an attack of acute anterior poliomyelitis, and infection was produced by injection of the emulsion into the peritoneal cavity of the monkeys. One of the animals fell ill on the sixth and died on the eighth day; paralysis of the legs was observed in the other on the seventeenth day, and it was killed two days later. In both the pia mater was found to be infiltrated *post mortem*, the grey matter of the cord was soft, circumvascular and diffuse infiltrations were marked, and the ganglion cells were badly damaged, particularly in the anterior horns. Analogous changes were also found in the cortex of the brain. Attempts to infect three other monkeys with this material proved abortive, but since that date it has been abundantly proved that the disease can be transmitted from one monkey to another. Studies of the virus have demonstrated further that it can pass through a porcelain filter and can be preserved for many months in glycerine. It is easily destroyed by many germicides, of which hydrogen peroxide is one, but is resistant to the vapour of formaldehyde and to carbolic acid in strengths below 0.5 per cent.

Armed with this knowledge, Kling, of Stockholm, assisted by Wernstedt and Pettersson, took advantage of the occurrence of a number of cases in that city in 1911 and 1912 to prosecute a research into the distribution of the infective material, using as a test the production of the disease in monkeys confirmed by an examination of their spinal cords. He found that washings from the mouth and intestines of a number of children acutely ill with poliomyelitis or killed by the disease, produced the disease in apes, as did similar washings obtained *post mortem* from the mouth, nose, trachea, and small intestine. By the same method the virus was shown to be present also in the mucous secretions of a number of persons in close relationship with the sick, and even in those of some whose relationship was less obvious. Not all of these suffered from symptoms, but some of them did, although their illness, not being followed by paralysis, would not in other circumstances have been ascribed to the same infection; these Kling identifies with the "abortive" cases which have been so often described in epidemics of poliomyelitis (by Wickman and others). He found the virus, for example, in members of four different families, some of whom had suffered from headaches, malaise, and other symptoms, and some had not, whilst in one member of each family paralysis had supervened. It appeared, therefore, that the adults were affected by the disease, though it did not chance to have produced in them the paralysis which so often follows in children. We do not know whether apparently healthy people whose secretions contain the infection are carriers of the germs—that is, are the infectors—or whether they are infected from the sick but are able to resist the virus, presumably by means of antibodies in the blood, and to prevent it from harming their own nervous systems. So far as investigation has gone it appears that carriers are more numerous than sick children in the proportion of at least four or five to one. The virus is resistant to digestion, since it passes through the stomach of a monkey without being destroyed, and may be readily recovered from the faeces of human patients or carriers of the disease. It is most virulent in the first fortnight of the illness; in animals inoculated with material obtained at a later stage both the symptoms induced and the microscopic changes in their spinal cords are less marked, but virulence is regained by the passage, since a second animal is severely affected. There is no evidence at present as to whether infection is conveyed directly, or indirectly as by parasites, but an attempt to recognize the virus in flies from an infected house was unsuccessful, and so were experiments made upon fleas. But the question cannot yet be regarded as settled; the recent epidemics in Sweden (there were 3,840 cases in 1911) showed a tendency to the production of many instances of infantile paralysis in large and densely inhabited dwelling places, and this may be dependent on some form of parasitic transmission.

For how long should the patients be quarantined as infectious to others? Kling examined washings from the mouth and the intestine repeatedly at various intervals of weeks and months in nine typical acute cases, and found that the virus was still present in both the washings six months after the attack in one patient. Four months after the attack it was present in the mouth-washings of two or three of the patients, and in the intestinal washings of two or three others. Hence he concludes that any theoretically adequate quarantine is a practical impossibility, but notes the fortunate fact that the virus thus carried lessens in virulence as time passes. The quarantine should be for at least a fortnight. Kling holds that the great majority of adults and many children may be infected with the virus without being a penny the worse for it; whether because the virus is weak or because the resistance of such individuals is high, he is uncertain, but he inclines to the latter view. Every acute case he believes to be surrounded by a number of abortive cases of infantile paralysis, and by a still larger number of perfectly healthy people, who are all carriers of the infection, and therefore potential sources of infection to others. All these persons appear to develop a relatively high degree of immunity to subsequent infections with the virus, a fact which may explain the comparative immunity of towns or villages visited by epidemics of infantile paralysis to further epidemics occurring during, at any rate, the next few years. The same phenomenon is met with, according to Kling, in successive epidemics of cholera and of typhus fever.

Quite recently Flexner and Noguchi[1] have succeeded where many others have failed, and have grown the virus of acute poliomyelitis outside the animal body, and demonstrated its presence in the media employed. The growths were made anaërobically under a layer

[1] *Journ. Amer. Med. Assoc.*, 1913, lx, No. 5.

of paraffin, in a solid agar medium containing sterile unfiltered ascitic fluid, or brain extract and sterile rabbit kidney. Minute colonies were obtained, composed of globular or globoid bodies averaging in young cultures 0.15 to 0.3 μ in size, arranged singly or in short chains or in masses. Cultures from human tissues in the third, and from monkey tissues in the fifth generation have caused typical experimental poliomyelitis in the monkey.

THE APPENDIX IN SURGERY AND GYNAECOLOGY.

THE appendix vermiformis hangs, so to speak, on the border line between abdominal surgery and gynaecology. Every one recognizes that the general surgeon must be prepared to deal with it in his sphere of work; but it is perhaps hardly so clearly recognized that the gynaecologist likewise must be ready to treat appendicular affections when he meets them, and he may meet them any time. The surgeon commonly handles the appendix, but the gynaecologist occasionally has to touch it. There is also another aspect of the subject: the business of the gynaecologist is to search out and put right (operatively or non-operatively as occasion demands) morbid states of the uterus and its adnexa (tubes and ovaries), and his mind and methods are directed thereto; but the surgeon has these structures less prominently in view, and yet they may at any time obtrude themselves upon him and call for his skill. The gynaecologist commonly handles the uterine adnexa, but the general surgeon now and again is forced to touch them.

There can be no doubt that it is so. The medical literature of the day has abundant evidence to prove it. Take the case of which Dr. Colin Faulkrod was speaking to the Obstetrical Society of Philadelphia the other month.[1] The abdomen was opened on the diagnosis of right-sided extrauterine pregnancy; a diseased appendix and a dermoid cyst of the right ovary were found. Or take Dr. F. C. Hammond's experience told to the same society.[2] He was asked to operate for suspected appendicitis, and there were all the symptoms of it; but he made the routine bimanual examination and found a round fluctuating mass on the right side of the pelvis; so he opened the abdomen, found and removed an ovarian tumour which had twisted its pedicle four and a half times, and, discovering that the appendix was healthy, left it alone. Again, cases are known, but not always reported, in which the surgeon opens the abdomen, removes an innocent appendix, and then passing his hand down into the pouch of Douglas, pulls into sight a pus-tube which bursts in his fingers.

Further, appendicitis and a pus-tube may coexist. Dr. George M. Boyd[3] made a vaginal examination before operating on a case which had been diagnosed as appendicitis, and found a swelling behind and to the left of the uterus; he opened the abdomen in the middle line and not by a lateral incision (as he had thought of doing), and removed both a pus-tube and an inflamed appendix vermiformis; had he not made the vaginal examination, he might have made his incision on the right side, have removed the diseased appendix, and never have discovered the pyosalpinx.

If, however, the surgeon or the gynaecologist have any lingering doubts about the way in which their two spheres overlap in the right lower quadrant of the abdomen, let them peruse Dr. Basso's monograph[4] of a hundred pages on the vermiform appendix in physiological and pathological states of the female generative organs. Traversing all the field of medical literature for his information and using the material of Professor Resinelli's clinic in Florence for his facts, Dr. Basso has discovered many things which it is well worth the while of both the surgeon and the gynaecologist to know and to consider. There is, for instance, the pelvic position of the appendix in from 13 to 40 per cent. of women; the fact that in recent statistics appendicitis appears to be almost as frequent in women as in men; the demonstration of the causal connexion between appendicitis and inflammation of the ovary, tube, and parts about these structures, and conversely between the inflammation of the uterine adnexa — adnexitis and periadnexitis — and appendicitis and periappendicitis; the coexistence of appendicitis and adnexitis of independent origin; and the occasional occurrence of appendicitis as a sequel to operations on the pelvic organs. Dr. Basso rightly insists upon the difficulty of distinguishing between gynaecological complaints and those due to appendicitis by means of symptomatology; for instance, some forms of dysmenorrhoea can hardly be separated from cases of pain due to chronic appendicitis. Even careful abdominal, vaginal, and rectal examination will not always serve to diagnose between surgical and gynaecological states. There is much else in Dr. Basso's article that is of importance; in that part of it, for instance, which shows the intimate relation which may exist between appendicitis and pregnancy, labour, and the puerperium; but enough has been quoted to establish his principal contention.

His principal contention is that the gynaecologist must have so exact a knowledge of the diagnosis and operative treatment of the abdominal organs as to be able to intervene in purely gynaecological cases with safety and security, and also to deal with the organs outside the genital sphere in cases of erroneous diagnosis, and when these organs have been accidentally injured by the separation of adhesions, etc. We must agree with him in this, for the pelvic cavity is not shut off as is the cranial; indeed, it is not even separated from the abdomen, as the thorax is, by a diaphragm, and on the imaginary boundary lies the appendix vermiformis. The gynaecologist, therefore, must know at the least enough abdominal surgery to be able to deal with intestinal, and especially with appendicial, conditions.

The surgeon also has his lesson to learn. He must not only think of the appendix when he has to do with trouble in the lower quadrant of the abdomen on the right side; he must also let the presence of the uterine adnexa in the near vicinity have its place in his mind. He must therefore be prepared to practise the diagnostic methods of the gynaecologist, and must not neglect the vaginal and the bimanual examinations; and lastly, he must have a sufficient knowledge of the technique of gynaecological surgery to enable him to cope with pyosalpinx, ectopic gestation, multiple adhesions of the ovaries, and ovarian cysts.

There are several unsolved problems connected with the appendix; there is, for example, the question of the performance of prophylactic appendicectomy on all the occasions on which the gynaecologist opens the abdomen, and this in its turn cannot be settled until we know whether the appendix has glands in it secreting a useful fluid, and acts as a protection against bacteria, or is a functionless rudimentary part which the human subject is best

[1] *Amer. Journ. Obstet.*, lxvii, p. 152, 1913.
[2] *Amer. Journ. Obstet.*, lxvii, p. 151, 1913.
[3] *Amer. Journ. Obstet.*, lxvii, p. 153, 1913.
[4] *Annali di ostetricia e ginecologia.* Ann. xxxiv, pp. 615-717, December 31st, 1912.

without; there are several such problems, and Mr. Corner's article in the JOURNAL of February 15th (p. 325) throws some light on this one; but it is certain that the gynaecologist as well as the surgeon must know what to do with the appendix when he finds it diseased, and the surgeon as well as the gynaecologist must be prepared to treat any of the morbid states of the genital organs which may be confused with or coexist with appendicitis.

HOLIDAY MAKERS AND CONVALESCENTS.

A KIND of interim pronouncement in regard to the vexed question of attendance on insured persons resident for the time being elsewhere than in the areas to which they habitually live has been made by the Insurance Commissioners to the Bournemouth Insurance Committee, and is reproduced in the SUPPLEMENT (page 318). It purports to be an explanatory letter, and, apart from the interest of its topic, possesses, as an exercise in style, a certain curious quality of its own. Not unto every man is it given to write sentences each containing an average of eighty words with no particular stops; few people, too, would have conceived the jest of explaining away a supposed misapprehension by a statement to which each and every reader is likely to attribute a different meaning—if he does not give up in despair the attempt to find any meaning at all; and certainly no writer could have avoided with a greater air of ingenuousness all attempt to tackle the real questions at issue. We will assume that the word "adequate" in the second paragraph should read "inadequate"; but even then considerable difficulty remains in putting any logical construction on the three paragraphs as a whole. The Commissioners indicate a belief that they will be able to overcome the administrative difficulties that have already arisen between various Local Insurance Committees in the matter of adjustment of their accounts, and the fair payment of the medical men employed by them. This belief may be justified if the term "removal" is limited to its ordinary significance. Should it, however, be meant, as would appear to be intended in the first paragraph by the use of the words "removing at very frequent intervals," to cover changes of residence for however short a time and however often repeated, it seems safe to prophesy failure for the Commissioners' plan, whatever it may be. No system primarily devised to meet the case of insured persons who definitely change their domicile could in practice be applied with equal success to the case of insured persons who are merely visitors to an area for a few days. Every year during week ends and for longer periods hundreds of thousands of members of the insured classes pay visits to pleasure and health resorts. So long as capitation payment for medical attendance is in vogue, it must pass the wit of man to devise a method which would apply equally well to the case of true removals and of such individuals. The whole contention in this paragraph of the letter rests on the assumption that an insured person in good health going for a holiday will have the foresight to notify the Insurance Committee of the area in which he is a permanent resident, and also, it would seem, the Insurance Committee of the area in which he proposes to spend a few days or weeks. The Insurance Commissioners were very clearly warned that this assumption was not sound at the conference which took place on March 5th. The insured persons who are leaving home because they are ill or convalescent will without doubt take this trouble—as will possibly also the careful mother of a young family—but common experience of healthy human nature is sufficient to convince any one that most other holiday makers will not. The misapprehension, then, does not seem to be on the side of the doctors. Probably, however, it may be deduced from the third and concluding paragraph of the letter that the Commissioners do not deceive themselves on this point, and already realize that only two alternatives are open. One is boldly to declare that they do not expect Local Insurance Committees to recognize, for the purposes of medical attendance, the casual presence within their area of an insured person, and intend to limit the right to such attendance to persons permanently resident within any given insurance area. This would seem to be rejected in the third paragraph of the letter. The other alternative is to put at the disposition of Local Insurance Committees, and out of some source other than those at present known to be available, a sufficient sum of money to pay an agreed visiting fee for any medical attendance which may be required by an insured person temporarily within the area of a committee. There is one point in this pronouncement, however, on which the Commissioners are apparently deceiving themselves. Whatever else is obscure therein, it is clear that the Commissioners are disposed to hold that a panel medical officer will have no cause for complaint if he receives payment for attendance on "a removal" at the same rate as that paid for persons permanently resident in the area. Possibly this is true if the meaning of the term "removal" is strictly limited, as indicated above, to mean permanent change of residence; but if it is made to cover the presence in a town or village of an insured person for only a week or a month, or any like period, very just cause for discontent will arise. In such cases the insured is only likely to be assigned to a medical man because he happens to be ill, and it is almost needless to point out that there is a very great difference between accepting, say, 6s. 6d. or 7s. a year for a person who may possibly not require any medical attendance at all throughout its duration, and receiving, say, one fifty-second part of 6s. 6d. a year, or 1½d., for a week's attendance on a person who is actually ill when placed on the practitioner's list. Nor is this the only rock in the path of the Commissioners. At present the majority of panel medical officers believe that for every person on their list they will receive a sum of not less than 6s. 6d.; indeed, they have received assurances to this effect on numerous occasions from Mr. Lloyd George and others. What will they say if they are invited to agree to a deduction from this sum being made whenever it is brought to the notice of their local Insurance Committee by the Insurance Committee of some other area that such person has chosen to absent himself for a longer or shorter period from the area in which he habitually resides and earns his living?

THE NATIONAL INSURANCE ACT IN BEING.

THE notes in this week's SUPPLEMENT on the proceedings of various Local Insurance and Medical Committees are well worthy not only of perusal but of careful study. Culled from many different parts of the country, they put before us in a living way things as they really are, not as they ought to be or may in future be according to the after-dinner optimism of Mr. Masterman. Insurance Committees, Local Medical Committees, and individuals all emphatically declare that things are in many respects far from right. The London Insurance Committee wants to know if the present system cannot be improved, and has instructed its Medical Benefit Subcommittee to consider and report on the subject. Last Tuesday a meeting of panel doctors was held in London. It was a regular field day; Dr. Richmond, one of the Honorary Secretaries, had to admit that the acting Local Medical Committee was not of a representative character, and a motion thanking the Committee for its services, and requesting it to continue them was defeated. Out of the 5,800 doctors in London 1,282 were on the panel on the day of the meeting, and 1,074 of these had signed renewal agreements. The Lindsey (Lincs) Insurance Committee has decided to import a whole-time medical man because no doctor has accepted service on the panel

in three of the districts. At Sheffield the Committee "does not at present contemplate any limit being placed on the number of persons accepted by practitioners"; at Middlesbrough a maximum of 1,750 patients to any individual doctor is fixed, and Newcastle thinks 1,500 is enough for a doctor to manage. In Bucks the Insurance Committee has no funds to pay for a consulting medical referee. The doctors in Bournemouth, in common with all medical men at seaside and other holiday resorts, are in trouble about the payment for visitors. In Berkshire also, as in many other rural counties in England and Wales, the same difficulty is acutely felt. The Medical Committee sent a report to the Bournemouth Insurance Committee on this matter, and it in turn appealed to the Commissioners for advice and help. The Commissioners' letter in reply is a tangle which we have tried to unravel above. Bournemouth, in common with other insurance areas, has difficulty also about an income limit. One of the medical representatives on the Insurance Committee proposed an income limit, but it was rejected by 18 votes to 5. In East Sussex only four members on the Insurance Committee voted for an income limit. At Newcastle-on-Tyne an effort to reopen this question with the Insurance Committee was without avail. In Blackpool the discussion was deferred for further consideration, but the fate of other similar applications in other parts of the country is not encouraging. In this matter the expected is being realized, and the local fight is becoming a defeat of the profession in detail. The knotty question of mileage is still unsolved. Of the Treasury grants, amounting to £60,000, Scotland gets £10,000 for the Highlands and Islands and £16,000 for the Lowlands, leaving £34,000 for England and Wales. Whether the sum allowed will be enough to recoup the expenditure involved remains to be seen; this much, however, should not be forgotten by those who participate in the grant—that they would never have fingered a penny of this £60,000 but for the determined fight made on their behalf by the British Medical Association. Places wide apart as Newcastle and the Isle of Wight enter protests against the notion that this is a smooth-working Act. Medical practitioners in the former signed the renewal agreements under protest, and it is expected that some will retire from the panel. They also seriously considered the necessity of raising a war fund, and ultimately decided to refer this very important matter to the Council of the British Medical Association. At a meeting at Ryde, the Isle of Wight Local Medical Committee joined in the general chorus of dissatisfaction and criticism. Compared to the fighting doctors the chemists have been amenable; but even they are not satisfied, if we are to judge them all by their Scottish brethren, who passed a resolution unanimously affirming that the existing drug tariff is not sufficiently remunerative to secure an efficient pharmacy service, and a second resolution, also adopted unanimously, protesting that the alteration of Regulation 30 (1) in favour of the doctors was inconsistent with the promises of the Chancellor of the Exchequer. The working of the Act, indeed, seems to satisfy no one but the Financial Secretary to the Treasury. When every allowance is made for the difficulty of getting so huge a piece of machinery to work, and admitting to the full its many imperfections, some of which the Government will seek to remedy by the promised amending Act, there remains the conviction, to which we have already given expression, that the Insurance Commissioners are failing to exercise the central co-ordinating influence the country expects them to exert. It will now have to discount the optimistic, we had almost written boastful, utterances of the Chairman of the Joint Committee, who appears to be wholly unaware of the width and depth of the dissatisfaction and the half-amused contempt with which such a piece of blundering obscurantism as the Bournemouth letter is read by practical men in touch with the actual facts.

THE OLD LEPER HOUSE AT PRESTWICK.

EXCAVATIONS are being carried out on the site of the old leper hospital of Saint Ninian at Prestwick, the Ayrshire watering place so well known to West of Scotland golfers. A short account of the excavations has been given by Mr. Kirkwood Hewat in the *Glasgow Herald*. The hospital is mentioned by Sir James Simpson in his article on leprosy and leper hospitals in Scotland and England. He says that at Kilcais or Kingcase on a bleak muir in the parish of Prestwick, about two miles from the town of Ayr, there stood for several centuries a hospital for lepers. The general tradition of the surrounding country is to the effect that this hospital was founded by King Robert the Bruce, but Simpson thought it probable that it existed before that monarch's day. Whether he was the founder of the hospital or not, he seems to have been a very liberal benefactor; in connexion with this it may be recalled that it is generally stated by historians that Bruce himself was a leper and died of the disease. The hospital at one time possessed extensive property in the parish of Dundonald and in Kyle Stewart, but as was so often the case the gifts of charity were gradually diverted to private uses. No records remain from which the original extent of the Kingcase Hospital can be estimated. The only remnants of the buildings left when Simpson wrote (1841) consisted of the massive side wall of a building 36 feet long and 17 wide, believed to be the ruins of the chapel of the hospital. From this it may be judged that before it was despoiled of its revenues and land the grounds were of considerable extent. During the later years of the institution the number of lepers maintained in the Kingcase Hospital was limited to eight, but in its more prosperous day the number was probably larger. The lepers lived in huts in the vicinity of the chapel. The hospital was under the direction of an official who had the title of prior. There are frequent references to it in the borough records, which go back to 1470. These records show that the regulations were very strict against lepers going into the town or having dealings with its inhabitants. For instance, under date November 13, 1481, we read: "Andro Sauer is fund in daili reperand to Kingcase . . . and is abill tillinfect the hale toune, and weris the seik folkis clathis and bonnettis." Fourteen years later we read: "The quhilk dai Mariam Miller, Elane Broune, and Ane Duncane ar ilk ane severale in amerciamentis for the selling of ale and intromettin of the folkis of Kingcase agane the statutis of the toune." And much later, in 1693, a very heavy penalty is imposed upon the "Lipper Folke" if they intrude "upon the priviledges only proper to the burges and fremen." Robert Gordon, in his description of Kyle in the time of Charles I, mentions the chapel of Kingcase Hospital, and states that the persons who shared in the charity were lodged in huts or cottages near it; and in the records of the Presbytery of Ayr a commission was intimated from the Lord Chancellor to "visit the Hospitals of Kingkesse, Air, and Maybole—all having interest in the hospitals to compeir." Already the remains of no fewer than twenty-four "Lipper Folke" have been exhumed, and traces or impressions made by many coffins have been seen. Nearly all the bodies lay at the eastern end of the church, more than half the length of which has been disinterred. The walls are from three to four feet thick. The chapel had coloured window lights, as is indicated by a fragment of a window that has been found. The window was of mica, not glass. The town council of Prestwick some time ago acquired the ground surrounding the well associated with the memory of Robert the Bruce. It has restored the well, and has placed in the new wall surrounding it a bronze tablet with a suitable inscription. The excavations, which have been in progress for some weeks, are still proceeding.

THE DEVELOPMENT OF THE FUNCTION OF VISION.

DR. MOREAU, of St. Etienne, has recently had the opportunity of studying the sense of vision in a person born blind in whom the obstruction to light falling on the retina was removed.[1] The subject was a boy, aged 8 years, who had suffered from complete congenital bilateral cataract accompanied by constant nystagmus; he had lived with his father, a poor peasant, and had received absolutely no education. The left eye was operated on first and a dense cataract removed; a bandage covering both eyes was applied and the patient left at rest in bed for a week. When the dressing was removed at 10 o'clock one morning the boy was seated on his bed in the ward exposed to the daylight; the cornea was found to have healed perfectly. When after a few minutes the hand was held about 12 in. from the boy's eye and he was asked what he saw, he seemed bewildered and made no reply; the dressing was replaced; two days later it was removed in the dark room and the ophthalmoscopic lamp was placed behind the patient so as to illuminate the hand shown to him; asked what it was, the child leant forward, stretched his neck and rotated his head, opening his eyes very wide, but finally said, "I don't know." When he was allowed to touch it he said at once, "the hand." He did not fix the hand with his eye, but groped for it like a blind person. In subsequent trials when shown any object he at first always said, "I don't know," but after a time he substituted a new answer, and to every object shown him said, "It shines." Dr. Moreau remarks that the visual impression received was evidently not of a contour but of a luminous object. Three weeks later the other lens was removed, and when in due time the vision of that eye was tested he recognized the hand at once, but Dr. Moreau believes that this was because he had become accustomed to have the hand shown to him, so that he rather guessed than saw what it was. Bilateral vision did not really improve his answers; in each case he had to touch the object before he could recognize it. Examination of the fundi showed the absence of any lesion, and the pupils moved quite freely. He soon learnt to recognize colours, and even slight difference of tint. It is well known that contrasted colours on the same plane may in certain circumstances appear to be on different planes—for example, in a red pattern on a blue ground the red may seem in front of the blue; this illusion is particularly marked in some old stained glass. Dr. Moreau tested his patient on this point, but the results were negative, as the boy could always tell which colour was the nearer to him. His first acquirement was the recognition of the degree of illumination of objects; next he distinguished their colours, and could say whether an object was red or yellow. It was not easy for him to recognize the relative size of objects, but this, Dr. Moreau points out, is a difficulty all children have to learn by experience to overcome. He could find his way about the ward with his hands tied, but in the courtyard of the hospital he lost his way unless he was allowed to feel; this was attributed to lack of any visual memory of the landmarks. He learnt to count very quickly, but he could not make out the numbers of dominoes very well, probably because nystagmus and strabismus prevented his fixing the dots clearly. Dr. Moreau divided the two internal recti, which improved both conditions, but did not cure them completely. One night he was taken on to a verandah on the first floor opening on a garden 60 or 80 metres long. The verandah was lighted by three arc lamps with round glass shades, which were at a lower level, one on the left and two on the right; the moon, which was very clear, helped to light the verandah. When the child arrived on the verandah he believed that it was covered with snow; he stooped to pick it up and was disappointed to find none; he took the moon for an arc lamp, and thought it was quite near to him. An attempt was made to teach him to read, and he succeeded in learning to read letters 1 cm. long, but at this stage he was taken away by his family, and his instruction ceased. Two years later Dr. Moreau went to see the boy, taking with him most of the objects which had served for education in hospital. He did not know Dr. Moreau nor could he recognize the cube which he had often seen at the hospital. He had lost the notions of square and round. He recognized the colours of playing cards but could not distinguish the suits as he had formerly been able to do. Dr. Moreau concludes that it is evidently wrong to believe that a person born blind can at once see the external world after a successful operation. Though the eyes have been rendered capable of perceiving, the utilization of this ability which constitutes the act of vision must be acquired; the operation merely prepares the way for education which is the principal factor; the occipital lobes can register and preserve visual impressions only as the result of apprenticeship and of methodical training. The education must be continued for a long time with untiring perseverance, for if it is interrupted the result is not merely to leave matters stationary but to allow those visual perceptions already acquired to be forgotten. The observations in this case are extremely interesting. They are strictly in accord with knowledge of the development of other functions. They may help to dissipate certain popular notions which have overlooked the fact that it is not solely the optical instrument but the visual centres which are essential for vision, and that for the recognition of external objects long training of these centres is necessary.

[1] *La Semaine Médicale* (No. 13, 1913), from the *Loire Médicale*, January and February, 1913.

SPINAL ANALGESIA.

SPINAL analgesia is not yet so thoroughly established in favour as many of its advocates would like. As in many other novel procedures, enthusiasm in its use outran discretion, and accidents of varying severity forced many surgeons back on inhalation anaesthesia for routine work. But almost every one grants that there are many occasions when this method of abolishing pain appears to be the best, and spinal analgesia may be said to hold a definite and possibly an enduring place. The records of surgeons whose experience is extensive are therefore very valuable. Dr. William S. Bainbridge has published a brief summary of his personal experience in 1,065 cases.[1] He points out that three general classes of solutions have been evolved: (1) Those of specific weight lighter than cerebro-spinal fluid — Babcock's "diffusible" solution made with alcohol belongs to this class; (2) those of approximately equal weight—solutions in water or normal saline; (3) the "non-diffusible" solutions rendered heavier than cerebro-spinal fluid by the addition of glucose or other such substances. The solutions of the second class are those generally employed, and stovaine or tropacocaine is usually the analgesic agent. Among all these cases there were no accompanying or post-operative symptoms of permanent or serious moment save in seven cases. There were two deaths, one surmised to be due to status lymphaticus and the other not thought to be brought about by stovaine poisoning. The second death occurred unfortunately at a demonstration to the Clinical Congress of Surgeons of North America in New York in November, 1912, and apparently raised some questionings, as a coroner's inquiry followed. The jury found that the man did not die of stovaine poisoning, but that death was caused by "pathological conditions," some of which were known before operation—atheroma, chronic nephritis, hepatic enlargement, stenosis of the aortic valve, and emphysema. We have some difficulty in understanding why operation for "inguinal hernia at times irreducible causing great

[1] *Journal of the American Medical Association*, vol. lix, p. 1855.

suffering" was thought of at all in such a bad patient, even though he was insistent. In the remaining five failures temporary partial paralysis followed by complete recovery occurred in one, no cerebro-fluid could be found in one, in two cases there was considerable respiratory depression, and there was one case of idiosyncrasy in which repeated punctures failed to produce analgesia. In Dr. Bainbridge's view the real objections to the procedure are that the operator cannot recall the dose, he is committed to it, and that in prolonged operations the analgesic effect may pass off before the surgeon's work is finished.

DR. FRIEDMANN'S TREATMENT OF TUBERCULOSIS.

THE turtle serum vaccine for tuberculosis introduced by Dr. F. F. Friedmann, and described by him in a paper published in the *Berliner klinische Wochenschrift* of November 18th, of which an account was given in the BRITISH MEDICAL JOURNAL of December 7th, 1912, is being investigated in the United States, where Dr. Friedmann now is. We are informed that his colleague, Dr. Piorkowski is at present in London. We learn from the *New York Medical Journal* of March 29th that the following statement has been made by the United States Public Health Service regarding its investigation of the Friedmann treatment for tuberculosis. On March 8th the Secretary of the Treasury, on the recommendation of the Surgeon-General, caused a board of medical officers to be detailed to make a thorough investigation of Dr. Friedmann's alleged cure for tuberculosis. These officers proceeded immediately to New York, and arranged with Dr. Friedmann for demonstrations of his remedy upon persons suffering from tuberculosis. These demonstrations are being carried on in certain New York hospitals through the courtesy of their respective authorities, and will be continued until sufficient information has been obtained for the forming of an opinion as to the merits of the treatment. Dr. Friedmann has submitted to the board a culture of the bacteria which, he states, are used in his method of treatment. In addition to the observation of persons under treatment by Dr. Friedmann, the board of officers will make experiments to ascertain whether this culture is, as Dr. Friedmann asserts, harmless to warm-blooded animals. Considerable time will necessarily be required to carry out these investigations, and in the meantime the public is advised that tuberculous patients should not travel long distances in the hope of receiving the treatment. Those to whom it is administered for demonstration purposes are selected by the hospital authorities from among their patients, the number selected constituting only a small proportion of available volunteers. Certain statements purporting to be expressions of the opinion of the board of officers of the public health service carrying on the investigations have appeared in the newspapers. These officers have expressed no opinion, and will not be in a position to do so until the work has advanced sufficiently far to warrant some conclusion in regard to Dr. Friedmann's treatment.

SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.

AN Institute for Medical Research in South Africa is being established at Johannesburg on the southern portion of the ground lying to the west of the general hospital and to the south of the fort. There has hitherto been no medical research institute in South Africa. A Veterinary Institute was erected and equipped by the Government some time ago at Dasbort, eight miles from Pretoria, but though the need for a medical research institute has been pressed by members of the medical profession, financial objections have prevented any forward movement. Recently, however, the Government and the leaders of the mining industry collaborated, with the result that generosity on both sides has provided not alone for the building and equipment but also its maintenance. The new institute at Johannesburg is to serve the whole of South Africa and will be called the South African Institute for Medical Research. The industrial diseases of the Transvaal will probably first call for consideration, owing to the mortality which they have occasioned, but the work will not be limited to these diseases, and it is hoped to attract skilled workers from Europe to aid the director in his researches; it is probable that research fellowships will be available for suitably qualified medical men desirous to carry out special lines of research. The proximity of the institute to the general hospital, which is the largest in South Africa, and the fact that it will be equipped with four wards, with twenty or thirty beds for the treatment of patients, will serve to associate the institute with medical work in Johannesburg. When the institute is in full working order, it is probable that courses in bacteriology and pathology will be arranged for medical students. Two appointments have already been made to the staff. The director of the institute is Dr. Watkins-Pitchford, and the statistician, Dr. G. D. Maynard. Dr. Watkins-Pitchford was formerly House-Physician to St. Thomas's Hospital, London; he studied plague in India, enteric fever in South Africa during the war, and small-pox in London. For the last ten years he has been Government Pathologist and Analyst for Natal, and last year was transferred by the Union Government to Johannesburg. Dr. Maynard was formerly M.O.H. for the suburbs of Pretoria, and subsequently Assistant Medical Officer to the Witwatersrand Association. It is expected that the building will be completed in about a year.

THE PATHOLOGICAL MUSEUM OF THE ANNUAL MEETINGS.

THE pathological museum is always a very interesting and instructive part of the annual meetings of the British Medical Association. Such a museum is being organized in connexion with the annual meeting in Brighton next July. The committee appointed for the purpose intends to arrange the material under four heads: (1) Exhibits bearing on discussions and papers in the various Sections, and in this respect invites the co-operation of secretaries of Sections; (2) specimens and illustrations relating to any recent research work; (3) instruments relating to clinical diagnosis and pathological investigation; (4) individual specimens of special interest, or a series illustrating some special subject. It is also proposed to bring together series of exhibits relating to neurology, and to heredity and mental and physical deterioration, and a series of *x*-ray and other photographs. While making this general plan the Committee is none the less anxious to receive specimens falling under Class 4 above. The museum will be established in a central position in the same building as that in which the Sections will meet, and will be easy of access. The honorary secretary of the Committee is Dr. H. Miller Galt, Pathologist to the Stephen Ralli Memorial Laboratory at the Royal Sussex County Hospital, Brighton.

DR. W. W. KEEN, of Philadelphia, has interested himself in the Lister Memorial Fund, and has already received subscriptions in response to an appeal to the medical profession in America.

SIR JAMES PORTER, K.C.B., who has been Director-General of the Medical Department, R.N., since 1908, will be succeeded on May 11th by Surgeon-General Arthur William May, R.N., who was Deputy Director-General from 1905 to 1909.

Dr. A. J. Chalmers, D.P.H., late of Ceylon, to whose work in connexion with the etiology of pellagra we have recently had opportunities of calling attention, has been appointed director of the Wellcome Research Laboratories at Khartoum, in succession to Dr. Andrew Balfour, who has been appointed director in chief of the Wellcome Bureau of Scientific Research, which has its head quarters in London.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Ventilation of the House of Commons.—On the vote for the House of Parliament Buildings and the Civil Service Estimates, on Thursday, April 3rd, a discussion took place on the ventilation of the House.

Mr. Mildmay complained especially of the air in the House of Commons itself, and objected to its being pumped up through the gratings in the floor and under the seats. He stated that during the Home Rule debates in the cold weather, he had been accustomed to bring in a rug so as to block up the holes near his feet, as it made his legs and feet cold.

Sir Frederick Banbury supported Mr. Mildmay in this complaint, and said that the effect of the ventilation, so far as the seat on which he was accustomed to sit was concerned, was to make the members' feet cold and their heads hot, which, he pointed out, was precisely opposite to what was desirable in the interests of debate.

Dr. Addison complained of the depressing effect of the air in the House, and passages, and libraries, and stated that sometimes members seemed to be surrounded with a sort of warm-air blanket. By the courtesy of the Speaker and the Commissioner of Works, Dr. Leonard Hill, F.R.S., had been permitted two days before, in company with the engineer, to make some observations on different parts of the House as to the rate of cooling. He had used a metre consisting of half a litre of water at the temperature of 104° surrounded by wet stockinette, kept wet by a wick leading from a graduated tube of water. Dr. Hill stated that in an ordinary comfortable room the fall of temperature from 100° to 97° F. in such an apparatus would take from three and a half to four minutes. The readings taken in the House were as follows:

Under the Gallery:
No. 1, 4.38 minutes; No. 2, 4.28 minutes.
Under Special Gallery:
No. 1, 4.50 minutes; No. 2, 4.30 minutes.
Library (centre table—window had been open at the bottom and there was a big fire):
No. 1, 4.35 minutes; No. 2, 4.15 minutes.
In the Lobby (beside the Telegraph Office):
No. 1, 4.30 minutes; No. 2, 4.10 minutes.

Dr. Addison pointed out that these observations yielded on an average of 4 min. 32 sec., which was an increase in time of nearly 20 per cent. on the average for a comfortable room. He expressed no opinion of his own as to the significance of these results, but hoped that a committee might be appointed to inquire into the whole subject.

Sir Philip Magnus supported the complaints against the ventilation and complained of the odours introduced into the House from the inlet-shaft at the river level when barges laden with offensive matters were passing along the front.

Captain Pirie condemned the ventilation in very vigorous terms, especially with respect to the dining-rooms.

Mr. Wedgwood Benn, in reply for the First Commissioner of Works, pointed out that some of the difficulty arose owing to different members having very different impressions as to what constituted comfort. He thought, however, that the air was not too stagnant. The Chamber itself was ventilated from the floor to the ceiling and the air within it was changed every few minutes by the exhaust fans in the ceiling; and he pointed out that if members insisted on opening the upper windows they would produce an air lock in the lower part of the Chamber. He explained the general system of filtering and warming the air, and reminded the House that his department had had the most careful guidance from Dr. Gordon in arranging these matters, and that the whole system had been improved at great expense. He stated, in conclusion, that the First Commissioner was quite willing, if members desired it, to appoint a committee to inquire into the subject.

Accommodation in Elementary Schools.—In reply to Mr. King, who stated that over 26 per cent. of the schools in the Birmingham areas were overcrowded, Mr. Pease said that the Board of Education had proposals before it involving the provision of 6,000 additional places. In reply to a further question from Mr. King, Mr. Pease stated that 5,680 additional places had been arranged for in Warrington, of which 1,260 had already been provided. He also stated that proposals were under consideration for the provision of additional places in Manchester.

Insanitary Houses.—In reply to Mr. Douglas Hall, who inquired whether legislation could not be introduced to alter the closing orders of the Housing and Town Planning Act, so that a demolition order need not compel an owner of condemned property to raze the dwelling to the ground without the option of being able to turn it into uses other than that of human habitation, Mr. Burns replied that the matter had been brought to his notice on several occasions, and that he hoped to have an opportuity of suggesting an amendment of the Act of 1909 to meet the difficulty.

Pharmacy Registrations.—In reply to Mr. Charles Bathurst, who said that the Pharmaceutical Society had not taken any steps to make by-laws under Section 4 (*b*) of the Poisons and Pharmacy Act, 1908, providing for the registration under the Acts of 1852 and 1868 of certified assistants to apothecaries under the Apothecaries Act of 1815, Mr. McKenna stated that the matter was receiving the attention of the Privy Council Office.

Small-Pox.

H.M.S. Conqueror.—In reply to Mr. Bentham, Dr. Macnamara stated that three men only out of a complement of over 700 had been infected with the modified form of small-pox, and he could not undertake to recommend any relaxation of the regulations with respect to the vaccination of men employed in the navy.

Small-pox Hospitals.—In reply to Mr. Wardle, Mr. McKinnon Wood stated that the Scottish Local Government Board was of opinion that the small-pox hospital at Kirkcaldy might be a source of infection, and that communications were taking place with a view to other arrangements being made for the reception of small-pox patient.

Town-planning Schemes.—In reply to Mr. Rowlands, Mr. Burns named four schemes which had been approved, and gave the names of boroughs or districts for which in thirty-three cases authority had been given to prepare schemes. In addition, eleven schemes were before the Board, and he was aware of 120 other cases in which the question of schemes was under consideration.

Suffrage Prisoners: Forcible Feeding.—In reply to Mr. Keir Hardie, Mr. McKenna said that during 1912 there were 240 suffrage prisoners, 57 of whom were forcibly fed, and 23 of these were released for reasons of health. Since the beginning of 1913 there had been 70 prisoners, 10 of whom were being and had been forcibly fed, and 3 of these had been released for reasons of health.

Cost of Pensions, Insurance, and Labour Exchanges.—In reply to Mr. Leach, the Chancellor of the Exchequer said that the amount on the Votes for these services for 1913–14 was £21,239,847.

Pure Food.—In reply to Sir John Lonsdale, Mr. Burns said that he was disposed to deal with bread when the Milk Bill was well on its way.

Milk Legislation.

There are three bills before Parliament which deal with milk or milk products, and it may be convenient to give a summary of each of them.

The English and Scottish bills deal generally with the

supply, distribution, and sale of milk, whilst the Irish bill is mainly limited to milk products as used for the manufacture of butter.

MILK AND DAIRIES BILL (ENGLAND).

Clause I provides that no person may carry on the trade of a dairyman in any dairy, unless he and the dairy are registered.

Definitions.

The expression "dairy" is defined in Clause 26 as including any farm, farmhouse, cowshed, milk store, milk shop, or other place from which milk is supplied, or in which, for the purposes of the sale or manufacture of butter or cheese, milk is kept or used. It does not include a shop in which milk is not supplied otherwise than in the closed receptacles in which it was delivered to the shop, or any shop in which the milk is sold for consumption on the premises only. The expression "dairyman" includes any occupier of a "dairy," any cow-keeper or purveyor of milk. Where the purveyor of milk does not occupy any premises for the sale of milk, Clause 1 provides that the place where he keeps the vessels he uses shall be deemed to be the dairy. The dairy and the dairyman are to be registered with the sanitary authority and the expression "sanitary authority" in London under Clauses 26 and 27 means the sanitary authority for the purposes of the Public Health Act, 1891, and elsewhere it means the District Council or the County Borough Council.

Powers of County Council.

It will be seen, therefore, that the authorities outside county boroughs are not the councils of the counties, although many responsibilities and duties are delegated to them and their officers. Under Clause 11, for example, the council of a county may exercise the powers and duties conferred under this Act in a rural district and "with the consent of the sanitary authority' in any other district. Under Clause 20, where a complaint has been made to the council of a county, either by any four inhabitant householders in the district, or by the parish council or parish meeting of any parish within it, or by the sanitary authority of any district within which milk is supplied from any dairy in the county district, or by the medical officer for the county himself, to the effect that the council of any county district has failed to carry out its duties under this Act, the County Council may order a public local inquiry and may resolve that the powers of the council of the district shall be transferred to the County Council.

It will therefore be seen that county councils may, in case of default, supersede such existing sanitary authority, and considerable responsibility in connexion therewith is thrown on the county medical officer.

Registration.

The second part of Clause 1 sets out the grounds on which a sanitary authority may remove a dairy from the register or refuse to register one, and the right of appeal to a court of summary jurisdiction against any refusal is secured to the dairyman, and, if required by him, the sanitary authority must state the grounds of its refusal.

Inspection.

Clause 2 deals with the inspection of dairies, and Subsection (2) gives power to an authority where the M.O.H. has reason to suspect that infectious disease is caused or likely to be caused by the consumption of milk supplied from an area which is outside his own district. In such a case notice is to be given to the medical officer of a county in the case of a rural district and in other cases to the M.O.H. of the sanitary authority, and such M.O.H. is required to inspect the dairy from which the milk is supplied and the persons employed therein; and also, if necessary, the cattle—in which case he is to be accompanied by a veterinary inspector or by some other properly qualified veterinary surgeon.

Special reference is also provided in this clause for the taking of samples of milk from suspected individual cows.

Clause 3 deals with the procedure in cases where the medical officer is of opinion that the infectious disease is caused or likely to be caused by the milk supplied from a dairy.

It will be noticed that this provision applies only to milk likely "to cause infectious disease," and the expression "infectious disease" is defined in Clause 26 as meaning any of various specific diseases there mentioned, and any other disease prescribed by an order made by the Local Government Board.

Unclean Milk.

It is not clear whether milk that is unclean without specific infection is included; but under Clause 15 the Local Government Board is given wide powers with respect to the issuing of orders, amongst them being orders which have reference to the prevention of impurities of milk intended for human consumption and the cleanliness of vessels used for or containing such milk, and for the protection of milk against infection or contamination.

Sale of Milk.

Clause 4 details the powers of sanitary authorities to make orders prohibiting the supply of milk from any dairy or dairyman.

Clause 5 requires that reports are to be furnished to the M.O.H. who gives the notice.

Penalties.

Clauses 6 to 9 deal with penalties. Under Clause 9 a dairyman is entitled to recover compensation in the case where a prohibiting order is made without due cause—disputes as to compensation being settled as provided in the Public Health Act, 1875—but Clause 25 provides that where a dairyman is charged with an offence, he shall be entitled to lay information against any other person whom he charges as the actual offender, and if he shows that he has exercised due diligence and that such person has committed the offence without his knowledge or connivance, proceedings may be taken and a conviction obtained against such other person.

In this connexion Clause 17 provides that a warranty or invoice supplied to a dairyman under the Sale of Food and Drugs Act shall not be a defence to any proceedings in respect of milk.

Tuberculous Milk.

Clause 12 relates to the sale of tuberculous milk and the imposition of penalties.

Taking of Samples.

Under Clause 13 an inspector of the Local Government Board or the M.O.H. of a county or sanitary district may take samples of milk for examination *at any time* before it is delivered to the consumer, provided that the powers of the medical officer of health or a person authorized by him shall be exercised only within the county or district for which he acts, except as otherwise may be directed by the Local Government Board.

Bacteriologist and Veterinary Inspector.

Clause 14 provides that the council or any county or sanitary authority or a combination of such authorities may and, when required by the Local Government Board, shall, appoint veterinary inspectors and employ a bacteriologist.

Powers of Local Government Board.

Clause 15 details the very wide and important powers which may be exercised by the Local Government Board in respect of the Act.

Where alterations or improvements are ordered to be undertaken in any premises, Clause 16 provides for the expenses incurred and the apportionment of them between the landlord and tenant under various conditions, the determination of disputes being settled by an arbitrator or by a court of summary jurisdiction.

Under Clause 18 the Local Government Board may make regulations with respect to imported milk intended for human consumption.

Milk for Infants.

Under Clause 19 the authority of any district, other than a rural district, with a population of 50,000 or upwards, is given power to maintain dépôts for the sale of milk specially prepared for consumption by infants under 2 years of age, the Local Government Board being empowered to make regulations for carrying the section into effect.

Other clauses deal with the holding of local inquiries, the serving of notices, the defrayment of expenses, and similar matters.

MILK AND DAIRIES (SCOTLAND) BILL.

This bill approaches the question in some respects from a point of view different from that of the English bill.

The definitions are approximately the same, and are contained in Clause 2.

Inspection.

Under Clause 3 every local authority may and, when required by the Local Government Board shall, appoint a member of the Royal College of Veterinary Surgeons to act as inspector under the Act, and he shall not engage in private practice in any district in which he holds office, save with the consent of the Board. Two or more authorities may combine in appointing such an inspector, and he shall not be removable from office except by and with the consent of the Board.

Clause 3 provides that it shall be the duty of the veterinary inspector at least once in every year to inspect the cattle in every dairy in the district and to report the result of such inspection, and, under Clause 19, he is at liberty to apply to any cow the tuberculin or any other reasonable test for the purpose of discovering if the cow is suffering from tuberculosis, but the test shall not be applied except with the previous consent in writing of the owner of the cow.

Under Clause 4 it is provided that it shall be the duty of the M.O.H., or the sanitary inspector, or any other duly authorized officer from time to time, and at least once a year, to inspect every dairy in the district and to report the result of the inspection. Subsection (3) of this clause also provides that the M.O.H., sanitary inspector, or veterinary inspector may inspect any dairy in *any district* from which milk is consigned to the district of the local authority.

Registration.

Clause 5 provides that no person shall carry on the trade of a dairyman unless the dairy is duly registered, and Subsection (6) of this clause gives the local authority power to refuse to grant a certificate of registration or to revoke such a certificate if not only the premises but "the *person* is or becomes unsuitable to carry on the trade of a dairyman."

In this connexion also Clauses 12, 13, 14, and 15 give very important powers to the medical officers of health and to other authorities in connexion with the supervision of persons employed in or about dairies.

Infectious Disease in Dairymen.

By Clause 12 a dairyman is required to acquaint the medical officer of health with the fact that any person either residing on the dairy or employed in connexion with it is suspected as suffering from any infectious disease, and, if such cases are discovered, the medical officer of health is required to inform the medical officer of health of the district to which the milk is consigned if it is outside his own area.

Clause 14 declares it unlawful for any person suffering from or showing symptoms of infectious disease, or suffering from any suppurating sore, or sore throat, or diarrhoea, to milk cows or to handle milk vessels, or to take any part in the conduct of the dairy, and it shall not be lawful for a dairyman to allow any such person to do so.

Clause 15 also empowers medical officers of health to examine the persons employed in or about dairies, where cases of infectious disease or any illness attributable to milk have been discovered; and Subsection (2) enables inquiries to be undertaken on the notice given by any medical officer of health to the medical officer of a district outside his own, from which suspected milk is supplied.

Provisions also are inserted for the decision of cases where a grievance is alleged on appeal in a summary manner to a sheriff having jurisdiction in the district and for providing compensation to dairymen where the claim is established.

By-laws.

Under Clause 6 it is the duty of the local authority to make by-laws for their district providing for the inspection of cattle in dairies, the structure, lighting, cleaning, etc., of dairies and their appliances, for the prevention of impurities in milk, and for securing the cleanliness and health of cows and the cleanliness of the persons attending to them, and for prescribing precautions to be taken by the dairy against the infection or contamination of milk. It will be noticed that here it is the local authority that makes the by-laws, and not the Local Government Board, as in England. Such by-laws, however, in respect of the structure, lighting, and other provisions of the dairy are not applicable to dairies where the dairyman only sells the milk in small quantities or for their own consumption or to persons in his employment or to neighbours.

By-laws of the local authorities must be confirmed by the Local Government Board after consultation with the Board of Agriculture.

In connexion, further, with the spread of infectious diseases, the dairyman may be required to furnish to the authority a complete list of the names and addresses of his customers.

Clause 17 gives the officers of the different authorities power to obtain samples of material for the purposes of bacteriological examination. As in the English bill, a local authority may appoint a committee to exercise its powers under the Act.

Powers of Local Government Board.

Under Clause 7 it is the duty of the local authority to carry out the provisions of the Act, and under Clause 8, in the case of a local authority failing to perform the duties imposed upon them, power is given to the Local Government Board by summary petition to obtain direction "to do therein and to dispose of the expenses of the proceedings as to the said division or Lord Ordinary shall appear to be just."

Similar action may be taken by the Board in Clause 9 on the request of a local authority which is receiving milk from the area of an authority stated to be neglecting its duty.

Clause 10 sets out the subjects upon which the Board itself will make regulations. They are mainly concerned with the cooling of milk, with the measures directed to protect it against infection, contamination, and adulteration, and the manner of its conveyance and identification.

Milk for Infants.

Similarly, as in the English bill, a local authority, without in this case any distinction of the population in its area, may establish and maintain depôts for the supply of infants' milk.

The remainder of the clauses of the bill deal mainly with matters of machinery.

IRISH CREAMERIES AND DAIRY PRODUCE BILL.

The purpose of this bill is to secure the registration of creameries and of cream-separating stations, and to secure better supervision of the manufacture and sale of Irish dairy produce.

Registration.

Premises are not required to be registered as creameries unless in the ordinary course of business the amount of butter manufactured in them on an average day exceeds 56 lb., nor is a cream-separating station required to be registered unless the quantity of cream separated on an average day is sufficient for the manufacture of at least 28 lb. of butter.

Clause 4 sets out the conditions with respect to cleanliness and freedom from contamination of materials and apparatus in registered creameries.

Clause 5 details the conditions under which the manufacture is to be carried on. The cream used in any station must either be separated on the premises by means of centrifugal force mechanically applied or have been supplied from some other registered creamery or separating station.

Clause 8 sets out the conditions under which premises may be removed from the register, and Clause 9 details the proceedings which may be taken on refusal of registration or on the removal of a creamery from the list.

Clean Milk.

Clause 12 contains important provisions directed to secure that the milk supplied shall be clean and in clean vessels, and Clause 18 relates to butter that is unclean.

Inspection: Penalties.

Clauses 14 to 17 relate to details of inspection, registration, and offences, and Clause 17 sets out the conditions under which a person carrying on business and charged with an offence becomes exempt from penalty if he shows that some other person is responsible for the fault without his knowledge or consent, and that he himself has exercised due diligence to secure the carrying out of the provisions of the Act.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

TUBERCULOSIS ADMINISTRATION IN EDINBURGH.

SIR THOMAS HUNTER, the town clerk of Edinburgh, has made an inquiry into the arrangements necessary to be made for the treatment of tuberculosis under the Insurance Act, and has drawn up a report which was considered at a meeting of the Public Health Committee of the Town Council on April 4th. The Committee agreed generally to the report. The new arrangements and appointments considered necessary are as follows. Since the Corporation has agreed to receive insured persons sent by the Insurance Committee for sanatorium treatment into Colinton Hospital, it will be requisite to make arrangements for their treatment there; it is recommended, therefore, that in addition to the permanent staff of nurses and others, the Corporation should continue the present arrangement under which Dr. Alexander James undertakes the medical treatment of the tuberculosis patients upon remuneration at the rate of £300 per annum, which would be in addition to any payment made to him for duties performed by him in connexion with the other work of the hospital. It is further recommended that the Corporation should appoint a thoroughly qualified assistant medical officer of health, to give his whole time to the duties of the office, that he should have special qualifications for dealing with tuberculosis, and that he should be remunerated by a salary of not less than £500 per annum. His services should be placed at the command of the Local Insurance Committee for the purposes connected with sanatorium or other treatment of tuberculosis. It would also be necessary to appoint an inquiry officer to the Public Health Department, at a salary commencing at £150, whose time would be mainly devoted to the work of the Insurance Committee and the applications to them for sanatorium benefit to insured persons. Then it was recommended that the arrangement at present subsisting between the Corporation and the Royal Victoria Dispensary, under which the Corporation contributes £450 per annum in respect of certain benefits received in connexion with the dispensary, should be amended to the effect that the dispensary authorities should undertake to give dispensary treatment to all persons, whether insured or uninsured, sent to the institution by the medical officer of health or the assistant medical officer of health, and that in respect of this the Corporation should pay to the dispensary authorities a sum of, say, £600 per annum, or such other sum as might be arranged. It was recommended, in the next place, that the Corporation should secure the services of a thoroughly qualified consultant—for example, Sir Robert William Philip, M.D.—and arrange with him to act as consulting officer to the Corporation and the Health Insurance Committee in connexion with the prevention or treatment of tuberculosis in all its forms, whether in the case of insured or uninsured persons. The remuneration of such consultant would depend upon the agreement with him; it would probably be not less than £500 per annum. Finally, it was proposed that the Insurance Committee should be asked to contribute to the new expenditure involved, and it was suggested that it should pay one half of the salary of the assistant medical officer of health, a proportion of the £600 payable to the dispensary, a portion of the salary of the inquiry officer, and half of the sum to be paid to the consultant. If these new arrangements were carried through, it would probably be no longer necessary for the Corporation to retain its call on ten beds in the Royal Victoria Hospital, for which it at present pays £500 per annum to the hospital. Obviously these are radical and far-reaching changes, involving considerable additional expense. The recommendations of the Public Health Committee were considered at the meeting of the town council on April 9th, and after discussion were recommitted to the Public Health Committee and Treasurers Committee.

In addition to the new salaries and honorariums (amounting to about £1,900) proposed in the town clerk's report to the town council of Edinburgh, it is pointed out by the Chairman of the Edinburgh Insurance Committee in a memorandum just issued that a large sum of money will be required. The cost of treatment in sanatoriums of, say, 200 patients (insured persons and their dependants) at 25s. a week will be £13,000 a year, the cost of dispensary treatment will be £200, and the cost of additional expenditure applicable to domiciliary treatment will be £800, making £14,000 in all. The sum of money at the disposal of the Insurance Committee for sanatorium and dispensary treatment may be put at £4,000, leaving a sum of estimated surplus expenditure over income of £10,000, whereof one half would have to be guaranteed by the Corporation of Edinburgh and the other half by the Treasury.

HOUSING AND TOWN PLANNING.

A memorandum has been issued by the Local Government Board for Scotland relative to the operation of the Housing, Town Planning, etc., Act, 1909. It states that the Board has during the past three years had every reason to be satisfied with the wide interest shown by local bodies and the public generally in connexion with the administration and execution of the Act.

The records of the work done by local authorities under Part I, dealing with the housing of the working classes, afford ample testimony that greater and better directed efforts are being made for the improvement of housing conditions in Scotland. The first step was to designate officers to perform the duties imposed by the regulations, and practically every local authority in Scotland had now designated an officer or officers. During the past year the annual reports of these officers on the work done during 1911 made it evident that at the date of compilation many local authorities were still engaged making their arrangements, and, wherever it was deemed advisable, the Board communicated with the local authorities and the officers, explaining what was required of them.

Town Planning.

Upon this question the memorandum states as follows:

While the Act has only been in force for three years, the Board has had ample opportunity of noting the deep and widespread interest that is being taken in the subject. Before the passing of the Act the interests of local authorities and landowners in this matter were frequently at variance, to the detriment of the public interest. The Act of 1909, however, endeavours to establish a new relationship between these parties. It contemplates and provides for co-operation between them for their mutual advantage. In fact, it may be said that no town-planning scheme can be entirely successful where it fails to fuse the interests of the local authorities and landowners. It is, indeed, the gratifying experience of the Board that in properly devised schemes landowners are found ready to co-operate. Even indirectly the Act has been instrumental in encouraging landlords to proceed on town-planning lines by adopting better methods of developing their estates without the formalities of town-planning schemes. In further evidence of the widespread interest that is being taken in this movement it is only necessary to refer to the public conferences that are being held at different centres from time to time. These conferences are largely attended by representatives of local authorities and landowners, and by engineers, architects, and surveyors from all parts of the country, and afford an excellent medium for the exposition of the provisions of the Act, and for the discussion of its problems. So far the Board has reason to be gratified at the action taken, and being taken, by local authorities. The progress made is the more remarkable when due allowance is made for the novel character of the Act and the natural reluctance of local authorities to enter upon schemes costing time and money for benefits that may not accrue for some considerable time. Further, the Board feels confident that when the advantages of the Act have been practically demonstrated by the pioneering local authorities others will be encouraged to avail themselves of its provisions.

Provisions for Compensation.

Section 58 provides for compensation being paid to persons whose property is injuriously affected by a scheme, provided that a claim is made within a prescribed time after notice of the approval of the scheme has been published. But a person is not entitled to compensation on account of any building erected on, or contract made, or other thing done with respect to land included in the scheme (1) after the time at which the application for authority to prepare the scheme was made, or (2) after such other time as the Local Government Board may fix for the purpose. It will be seen that under (2) the Board has power to fix an earlier date than that of application,

and in several instances it has done so at the request of the local authorities. The object and effect of the above limitations in the matter of compensation are to prevent undesirable development during the preparation of a scheme. But at the same time the Board recognizes that, until the provisions of any scheme are known, legitimate development is also arrested, and it is its endeavour to minimize that as far as possible. Accordingly, in fixing a date, it is careful to require the authority to make application within a prescribed period. Further, it does all in its power to facilitate and expedite the preparation and completion of schemes, so that as little hardship as possible may be imposed on private enterprise.

Proposals for Schemes.

Under Section 54 of the Act, the Board (1) may authorize a local authority to prepare a town-planning scheme with reference to any land within or in the neighbourhood of the area, if the authority satisfy the Board that there is a *prima facie* case for making such a scheme, or (2) may authorize a local authority to adopt, with or without any modifications, any such scheme proposed by all or any of the owners of any land with respect to which the local authority might itself have been authorised to prepare a scheme. The section also provides that a town-planning scheme prepared or adopted by a local authority shall not have effect unless it is approved by order of the Board. There are thus two distinct stages in connexion with a scheme: (1) Authority to prepare, and (2) approval after preparation. Town-planning schemes submitted (but not yet authorized) from burghal and landward local authorities at Dunfermline, Inverkeithing, Dundee, and Edinburgh comprise a total area of 6,420 acres.

Milk and Dairies Bill for Scotland.

A good many medical men in Edinburgh are scanning with interest the various clauses of the Milk and Dairies Bill (Scotland) which has just been introduced into the House of Commons. It is more than twenty years ago that Dr. Sims Woodhead gave his lecture in Edinburgh on what he had seen in Denmark of the inspection of dairies and the hygiene of cows; and it is felt to be no great credit to Scotland that it is only now approaching the standard which then existed in Copenhagen. Many children who are tuberculous to-day would in all probability be healthy had some such measure as that now proposed been passed years ago. It is to be hoped that before long we shall have something like the *goutte de lait* system of France for the safeguarding of the milk supply of young children and infants. A few dépôts for the supply of milk especially prepared for infants exist in Edinburgh and Leith, but their number is held to be insufficient. The bill will facilitate their institution.

The Victoria Infirmary, Glasgow.

The managers of the Victoria Infirmary have appointed Dr. Ivy Mackenzie to the medical wards left vacant by the retiral of Dr. Love. It is in many ways an interesting appointment. Dr. Mackenzie has in a short time made so great a reputation as a scientific investigator of disease that great things are hoped from his use of the clinical opportunities afforded him at such an early stage in his career.

Edinburgh Hospital for Women and Children.

At a recent meeting of the executive committee of the hospital the appointment of Dr. Janet Mowat as dispensary medical officer, in place of Mrs. Barnetson, M.B., Ch.B., resigned, was confirmed.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Irish-Emigration for the Last Sixty Years.

The collection of emigration returns for Ireland began on May 1st, 1851. The total number of emigrants—natives of Ireland—who left Irish ports from that date to the end of December, 1912, amounted in the aggregate to 4,247,360—a figure which is within about 150,000 of the present population of Ireland. During 1912, 29,344 natives of Ireland left the country; this is equivalent to a rate of 6.7 per 1,000 of the population, and shows a decrease of 1,229 as compared with the year 1911. The largest number of emigrants for any year of the period 1852 to 1912 was 190,322 in the year 1852, representing a rate of 30.0 per 1,000 of the population; and the lowest number was 23,295 (or 5.3 per 1,000) in the year 1908. The importance of this emigration in draining the country of those in the prime of life is shown by the fact that 85.9 per cent. of the persons who left Ireland last year were between the ages of 15 to 35, and as far back as the records go the percentage of emigrants between these ages has always been over 80, and has been as high as 86.9. Of the 14,569 males aged 15 years and upwards 63.9 per cent. were returned as "labourers," and of the 12,946 females of 15 years and upwards 71.5 per cent. were returned as "servants." During the last few years there has been a slight reduction in the numbers going to America, and an increase in the numbers going to the Colonies.

Royal Victoria Hospital, Belfast.

At the one hundred and twentieth meeting of this institution, held on March 26th, the Marquis of Londonderry, K.G., President of the Hospital, occupied the chair, and there was a large attendance. Dr. McKisack (for Dr. R. J. Johnstone, Honorary Secretary) moved the adoption of the report of the medical and surgical staff, which stated that there had been a total of 3,547 intern patients; the medical patients had slightly decreased, the surgical had increased; the work had been done at full pressure, and on many occasions the number of beds was insufficient. The hope was expressed that the erection of the new "King Edward VII Memorial Block" would soon be proceeded with; the total amount of subscriptions to the building fund promised was now £17,599, and of this about £16,000 had been collected. The financial statement for the year showed an excess of expenditure over receipts of £22, a very small sum in an annual expenditure of over £16,000; subscriptions had fallen off both from the general subscribers and from employees, and the hospital was faced with the statement that subscriptions in future from both these sources would be reduced or withdrawn altogether.

Health of Belfast.

At the monthly meeting of the City Council on April 1st the Medical Officer of Health (Dr. Bailie) returned the death-rate as 23.9, which is higher than that of the preceding four weeks, and than that of the corresponding period of last year. Pulmonary complaints had been very prevalent. The chairman of the Public Health Committee (Dr. Thomson) said that a scheme for the treatment of tuberculosis applicable to the whole community had been prepared; the only thing that remained to be done in connexion with the scheme was to interview the Poor Law guardians as to taking over the Abbey Sanatorium, and to call a special meeting of the whole council to consider the proposals.

Outbreak of Diphtheria at Booterstown.

A serious outbreak of diphtheria has occurred at Booterstown, a few miles from Dublin. Some 15 or 16 cases have been notified, most of them in the Blackrock area, but some cases have also been reported from Stillorgan. At the last meeting of the Blackrock Urban Council the Town Clerk said that the outbreak was caused by the consumption of contaminated milk. The cases were entirely confined to those who consumed the milk, and as soon as that became known the sale or consumption of the milk had been stopped. The cause of the contamination had not been discovered, but the matter was being investigated by Dr. Browne, Medical Inspector of the Local Government Board, and Dr. J. W. Boyce, Medical Officer of Health for the district. Four deaths, certified as diphtheria, have occurred in the district up to the present time. Dr. Boyce stated that there had not been a fresh case for some days, the last case being one of contact, not a primary one. The diphtheria mortality-rate in Ireland is habitually highest in the March quarter. For the December quarter, 1912, the total deaths from diphtheria were considerably below the average.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

BIRMINGHAM.

PRESENTATION TO DR. LLOYD-OWEN.

AT a meeting of the board of management of the General Hospital on April 4th an illuminated address was presented to Dr. Lloyd-Owen on his retirement from the post of honorary ophthalmic surgeon. The address, which was inscribed on specially prepared vellum in Florentine style of ornamentation, was as follows:

To David Charles Lloyd-Owen, M.D., F.R.C.S.I.,
Honorary Consulting Ophthalmic Surgeon to the
General Hospital, Birmingham, 1913.

At a meeting of the board of management of the General Hospital, Birmingham, held on Friday, January 3rd, 1913, Mr. J. B. Clarke in the chair, it was resolved unanimously:

That this board has received with much regret the resignation of Dr. David Charles Lloyd-Owen, and desires to record its high appreciation of the very able and courteous manner in which he has performed the duties of honorary ophthalmic surgeon since his election to that office on September 30th, 1898. That the resignation of Dr. D. C. Lloyd-Owen be accepted with regret, and that in consideration of the eminent services of Dr. D C. Lloyd-Owen it be recommended to the next annual meeting of the governors that he be appointed honorary consulting ophthalmic surgeon to the hospital.

At the annual meeting of governors Dr. Lloyd-Owen was unanimously elected honorary consulting ophthalmic surgeon.

ST. JOHN AMBULANCE ASSOCIATION.

The St. John Ambulance Association is doing most excellent work in Birmingham, as is shown by the fact that there are between 11,000 and 12,000 certificate holders in the city. A difficulty in giving instruction has, it is reported, arisen owing to the increased amount of work which has fallen upon the doctors as the result of the Insurance Act.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

LUCKNOW MEDICAL COLLEGE.

THE professorial appointments on the staff of King George's Medical College at Lucknow have been arranged so far as concerns present requirements. The staff of the college when it opens work in the autumn will be as follows: Principal and Professor of Surgery, Major Selby, F.R.C.S.; Professor of Medicine, Major Sprawson, M.D., M.R.C.P.; Professor of Obstetrics, Lieutenant-Colonel G. T. Birdwood, M.D.; Professor of Pathology, Major H. J. Walton, M.D., F.R.C.S.; Professor of Anatomy, Sahibzada Suiduzzuffer Khan, M.B., D.T.M.; Professor of Physiology, Captain A. E. J. Lister, M.D., F.R.C.S. Of these Major Selby and Major Sprawson have been already attached to the college for some time; the others will join in October.

STRETCHER DRILL AT AGRA MEDICAL SCHOOL.

On the occasion of the annual distribution of prizes at the Agra Medical School, Surgeon-General Sir C. Pardey Lukis, the Director-General of the Indian Medical Service, did not confine his address to the complimentary platitudes which are customary at ceremonies of this kind. It appears that students have been protesting anonymously against various details of college discipline. Even the military students have been infected by the spirit of insubordination, and have objected to stretcher drill as "coolies' work." Sir Pardey Lukis felt called upon publicly to reprove these errors. He pointed out that "the object of stretcher drill is to fit you for the training of stretcher bearers, which will be one of your most important duties when you join your regiments. Every officer of the Royal Army Medical Corps and Indian Medical Service undergoes similar training. Why should you object?" He reminded the grumblers, moreover, that "nothing which conduces to the well-being of his patient is degrading to the medical man." He might have given the axiom an even wider application; for surely nothing which conduces to the well-being of others is degrading to anybody, whatever his calling may be.

THE WHITE PHOSPHORUS BILL.

The Select Committee of the White Phosphorus Bill, in its report, made only one amendment of any importance. The powers given under Section 6 of forfeiting matches are to be exercised by Presidency magistrates, subdivisional magistrates, or magistrates of the first class. The Committee was opposed to postponing the date on which the bill should come into operation.

PLAGUE AT JHELUM.

The Deputy Commissioner and the Civil Surgeon have visited the deserted bazaars of the city of Jhelum, impressing on the people the benefits of disinfection and inoculation, but the exodus continues, and it has been suggested that a segregation camp outside the town would prove beneficial. A cordon of military guards is posted on the roads to prevent sepoys from visiting the city, which is being evacuated rapidly.

OPIUM AND DRUG LICENCES.

The Chief Commissioner of Delhi has issued notifications similar to those of the Punjab Government prohibiting the holders of licences for the vending of opium and hemp drugs from holding directly or indirectly any opium, drug, or spirit licences in a native State.

THE HEALTH OFFICER OF CALCUTTA.

Dr. Pearse, the health officer of the Corporation, has accepted the proposals of the Corporation rendered necessary on account of his ill health, and has resigned his position as from February 17th.

Correspondence.

THE LIMIT OF GROWTH.

SIR,—In your leader on cancer[1] you quote from Dr. Leitch, "All the cellular components of the living body obey laws governing the limits of their reparative or reproductive activity. Why they should cease multiplying when they have fitted into or restored a predestined scheme is quite beyond our knowledge."

This, of course, is true; but may I point out that it is not quite the whole truth? It may be supplemented by the further statement, that the laws which govern at any rate the reparative activities of cells are not quite uniform in different persons. Take the familiar case of the hair. The law which governs the reproduction of this tissue is in all the same to this extent—that there is a certain length, varying with the part of the body and the time of life, to which the hair will grow, and beyond which it cannot be made to grow. However much or little may be cut off any individual hair, that hair will grow to a certain length and no longer; and, however often the operation may be repeated, the result will be the same if time is allowed. It seems as if the root or follicle of the hair knows that the shaft of that hair has been shortened, and starts to make good the lost part of the length; and it seems, moreover, as if the root knows when the deficiency has been made good, and when to cease its reparative activity. How does it know? That it is not by the weight of the hair and its pull on the follicle is evident from the fact that the cut hair of women, which is supported, grows, in the same way as that of men, to a certain fixed limit. The fact I wish to emphasize is that this limit is not the same in men and in women, nor is it the same in all men nor in all women. The fact that the hair of some men grows longer than that of others, and of some women longer than that of others, shows that the "law of reparation or reproduction" is not the same in all. Some time ago a horse was exhibited whose mane was six feet and its tail, I think, eight feet long. Was not this a kind of cancer, or, rather, a link between normal growth and cancer? The hair follicles, it seems, were either ignorant that the hair had attained its normal length, or they forgot to stop, or refused to stop, when they received the signal. The same thing sometimes happens in scars.

[1] BRITISH MEDICAL JOURNAL, April 5th, 1913.

The reparative process goes too far and results in keloid, another half-way house to cancer. The main fact in cancer is that the cells do not cease to divide and proliferate when the normal limit is reached, and their activity should for the time come to an end. We see in the case of the hair and the keloid that what I may term the cessation point varies in different persons. Are not the cancerous those in whom the cessation point is naturally high, and is, perhaps in consequence, exceeded easily, and on small provocation? I may meet the objection that the cancerous are not necessarily long haired or subject to keloid by the fact, which is patent enough, that a high cessation point in one tissue does not necessarily mean a high cessation point in all. Long-haired people are not necessarily tall.—I am, etc.,

Parkstone, April 5th. CHARLES MERCIER.

DISTILLED WATER *VERSUS* SALVARSAN IN THE TREATMENT OF SYPHILIS.

SIR,—Dr. Arbour Stephens's article on the above subject in your last issue is of much interest. It occurred to me some time ago that the beneficial effect of salvarsan injections might be due in part, at any rate, to the quantity of water injected. The effect of water on intractable cases of syphilis was pointed out by Mr. A. H. Ward in 1904 in a small book he wrote on syphilis. He mentions the case of a woman with chronic syphilitic ulceration which recurred continually in spite of all kinds of treatment with mercury and iodides, but rapidly healed when three pints of hot water containing only 5 grains of iodide to the pint were given daily. Dr. Stephens recommends 6 to 10 c.cm. of distilled water given hypodermically. This is not far removed from the amount given in intramuscular injections of salvarsan, but is much less than that given for intravenous injections (about 200 c.cm.). Whether the hypodermic or intravenous injection of water is better than administration by the mouth is open to question, but taking all the evidence into consideration it would appear that large quantities of water are beneficial in chronic cases of syphilis. This probably has much to do with the effect of the old Litmann's decoction.—I am, etc.,

London, W., April 7th. C. F. MARSHALL.

SYPHILIS AND CANCER OF THE TONGUE.

SIR,—In your issue of April 5th, Mr. Ryall of the London Cancer Hospital states that cancer of the tongue is preceded by syphilis as an active agent in 80 per cent. of his cases. This statement is confirmed in your leader, in which you say that a positive Wassermann reaction is present in a large proportion of the cases.

For some time past I have had the opportunity of comparing the Wassermann reaction on cancer patients with all stages of syphilitics, and the conclusions I arrived at, stated recently before the Manchester Medical Society, are as follows:

Stomatitis cases of syphilitic origin give a strongly positive Wassermann reaction. In transition cases, with a mouth lesion of any magnitude, a slightly positive Wassermann reaction should be read in the light that either some other disease, such as tuberculosis, has been superadded, or that the disease has progressed to carcinoma.

I may say that very few mouth cases of a cancerous nature passing through the Christie Hospital have given a strongly positive Wassermann reaction. In cases of cancer of the tongue, although I am unable as yet to state absolute percentages, it has been the exception rather than the rule for a positive Wassermann reaction to be obtained. May I ask Mr. Ryall on how many cases the Wassermann reaction was performed, and what was the method employed? My method is one which was kindly shown to me by Mr. J. E. R. McDonagh; and in the malignant cases which have subsequently died, the Wassermann result has agreed with the *post-mortem* findings as carried out by the pathologist, Dr. C. Powell White.—I am, etc.,

ARNOLD RENSHAW,
Honorary Pathologist, Ancoats Hospital; Pathologist, Manchester and Salford Skin Hospital; Clinical Pathologist, Christie Hospital, Manchester.

Manchester, April 7th.

THE NEGLECT OF VACCINATION.

SIR,—Allow me in a short space to reply to Dr. J. W. Papillon's last letter. I have certainly no wish to deprive any one of the right of free vaccination, and when the Vaccination Acts are repealed and the machinery of public vaccination abolished, or at least very much modified, I would suggest that it should be open to any one desiring it to be vaccinated (or revaccinated) by his own medical attendant, who would be entitled to a fee (from the Government or local authority) for each certificate of successful vaccination sent in. Once it is recognized that infantile vaccination, no matter how efficiently it be carried out, cannot be relied upon to protect a community from small-pox, and that the chief value of vaccination is as an emergency operation supplementing other measures, the mere question of the *quality* of the vaccination becomes of so little importance that the medical inspection of vaccination could well be dispensed with. For emergency purposes one or two small marks are probably as good as four large marks, and would meet with less opposition.

This suggestion that the office of public vaccinator should be abolished, and that every medical practitioner should be paid by the State for vaccinating his own patients, was made by Dr. George Rice, I believe, many years ago, but received little attention. It is possible that in the near future it may have to be taken more seriously. Undoubtedly there is much to be said in its favour.

One other point. The 19 outbreaks of small-pox referred to in my last letter represent so many different importations occurring during a period of several years. Many of these outbreaks were confined to the first few cases. It is futile to suggest that the "objectors to vaccination inflicted these outbreaks upon themselves," or that the necessity for small-pox hospitals is the "natural sequel to allowing the objectors to vaccination to practise free trade in small-pox." Surely Dr. Papillon does not think that any large town, no matter how efficiently infantile vaccination be carried out, could safely dispense with its small-pox hospital, or that small-pox hospitals are only required for unvaccinated patients? Even in "unvaccinated" Leicester nearly half the small-pox cases which occur (45 per cent.) are in vaccinated subjects.

Lastly, the talk about the "burden and grievance of maintaining small-pox hospitals and their staffs" is a little overdone. The cost of maintaining empty small-pox hospitals is not a serious matter compared with the cost of universal vaccination. At Leicester the small-pox hospital costs little beyond a coat of paint every few years, and the occasional services of a charwoman.

In conclusion, let me say that if the antivaccinists were to cease from their impossible task of proving that vaccination is a myth and—abandoning a position which, scientifically, is untenable—were to concentrate on the demand for the repeal of the Vaccination Acts on the ground that they are obsolete, irritating and no longer necessary, they would undoubtedly be able to establish such a strong case that it is probable that victory would soon be theirs.

Personally, I should like to see the medical profession anticipating this move of the antivaccinists by itself occupying the ground indicated whilst it can still do so with dignity.—I am, etc.,

Leicester, April 7th. C. KILLICK MILLARD.

ALIMENTARY TOXAEMIA.

SIR,—In reply to Dr. A. W. Gilchrist in the JOURNAL of April 5th, who expresses surprise at my statement that oxalic acid may be produced by carbohydrate fermentation in the stomach, I must disclaim any pretension to being a biological chemist, but would refer him to the paper by Miss Helen Baldwin on Oxaluria, in the *Journal of Experimental Medicine*, 1905, and, further, to the discussion in Walker Hall's translation of von Noorden's *Metabolism*, vol. i, p. 149, and vol. iii, p. 1051. I agree that the question is not settled, but I would ask, What is not a matter of controversy in biological chemistry? May I suggest that the reason crystals of oxalate of lime are not found in the microscopical examination of Ewald test breakfasts in cases of achylia is that the contents

are removed at the end of one hour—an interval too short for the results of fermentation to be manifested?—I am, etc.,

Birmingham, April 7th. ROBERT SAUNDBY.

VENTRIFIXATION.

SIR,—In your annotation for the week on this subject in your issue of April 5th (p. 736) you refer to the diversity of opinion which exists among representative gynaecologists upon fundamental points. You then state that Professor Briggs and Dr. Arthur Giles have performed the operation in 1,100 cases "with results that gave them unqualified satisfaction," while Professor Herbert Spencer had only done the operation 27 times in 1,000 abdominal sections. From the statistical point of view you would have emphasized your point much more strongly if you had stated that Dr. Arthur Giles had performed this operation 309 times in 1,000 abdominal sections.[1]

With regard to your statement anent "unqualified satisfaction," is not the important point the unqualified satisfaction of the patient rather than of the operator, and can this be said to exist when 5 of Dr. Giles's 309 cases terminated fatally, and 42.2 per cent. of them had pain after the operation, even although 32.5 per cent. were stated to have less pain than before?—I am, etc.,

London, W., April 5th. HERBERT R. SPENCER.

IMMEDIATE OPERATION IN APPENDICITIS.

SIR,—The opinions of surgeons on this subject have without doubt interested the profession generally, and have caused a large number to think over past cases which might have been saved if an early operation had been undertaken.

I have not yet seen any distinction made between cases of slight and transient attacks of appendicular colic and definite inflammatory attacks of appendicitis, and I do not think it is prudent to group these two conditions together. I admit that it is difficult and often impossible to diagnose simple appendicular colic from a true appendicitis which may be of a fulminating nature requiring operative interference without the slightest delay.

But there are cases seen in private and admitted into our hospitals of slight pain in the right iliac fossa, with few constitutional symptoms and a history of many similar attacks. These are the cases which clear up and can be safely operated on at the so-called interval stage. At the time of operation they present an appendix lying free, with a distorted meso-appendix, a bulbous tip, a thickened, velvety lining of mucous membrane, and often one or more stercoliths. The mortality in this operation is practically *nil*.

Great assistance in the diagnosis between these simple cases of appendicular colic and true appendicitis may be obtained by a leucocyte count, which can be made within an hour, during which time certain arrangements and preliminaries may be got through. If the leucocytosis is over 10,000 delay is, in my opinion, unjustifiable—pus is there. In some cases—but not in all, and we cannot tell which—general peritonitis will be the condition to cope with if the case is left till the next day, and the patient's chance of recovery is lessened with every hour of delay.

If there is any doubt as regards the diagnosis between simple colic and a true appendicitis there is no risk in an exploratory operation, but there may be grave danger in delay. The profession owes a debt of gratitude to Mr. Edmund Owen and to those surgeons who have upheld his opinions, and I strongly believe that the discussion on Mr. Owen's paper will enable us to get in touch with this common and (from delay) often fatal disease at an earlier stage.—I am, etc.,

Plymouth, April 5th. GEORGE F. ALDOUS.

RECENT ADVANCES IN THE DIAGNOSIS, PROGNOSIS AND TREATMENT OF HEART DISEASE.

SIR,—The difficulty of explaining the remarkable resemblances between the parallel paragraphs which I cited from my books and Dr. Price's Toronto address, he meets by the statement that "The whole of the passages quoted by Dr. Lewis, which he insinuates were copied bodily by me from his book, appeared verbatim and in the same order in an address which I gave at the Brighton and Sussex Medico-Chirurgical Society on October 5th, 1911," that is to say some months before my second book *Clinical Disorders* was in circulation. On the other hand, Dr. Price admits that my book *Clinical Disorders* was in his hands late in the summer of 1912; the address at Toronto was delivered on October 8th, 1912 (published March 8th, 1913, in your columns).

The Brighton and Sussex address did not appear in print, and, as is not unnatural after an interval of twelve or eighteen months, none of Dr. Price's supporters, writing in your issue of March 29th, can satisfactorily confirm the identity of the printed paragraphs of the Toronto address with the oral passages of the Brighton and Sussex address. The available evidence is admittedly based upon memory of the language used at lectures delivered at least twelve months previously. Evidence as to the priority of phrases is only of value if it is based upon printed and published matter, because such printed matter is alone available to those concerned. The whole point is that separate quoted paragraphs of the Toronto address and of my writings show an unmistakable resemblance in phraseology and order. The only contemporary published evidence which considerably bears on the substance of Dr. Price's Brighton and Sussex address of October 5th, 1911, is an article of his in your columns of October 7th, 1911, which contains several sentences and paragraphs identical in language with those of the Toronto address, but no trace can be found of the passages to which I especially directed attention, and which appeared to me to have had an origin later than the Brighton and Sussex address.

Further, I would point out that four of my quoted passages were taken from *The Mechanism of the Heart Beat*, appearing, as my publishers tell me, in June, 1911, and several months before the Brighton and Sussex address was delivered. It is quite possible that the passages corresponding to these were delivered verbatim in the address, and that they were heard by Dr. Price's friends. In one of these passages I stated that premature beats may be produced by the injection of digitalis, adrenalin, aconitine, muscarine and physost*y*gmine. These drugs appeared together and by themselves for the first time in my text so far as I can ascertain. They reappear in Dr. Price's text in a similar argument, and again by themselves, though in a slightly different order. I spelt physostigmine incorrectly, so does Dr. Price. My statement only referred to experimental observations on animals. Dr. Price extends it, surely by an oversight, to their administration to patients. These cardiac effects of administering physostigmine and muscarine to the human subject have never been recorded, and, on account of the extremely dangerous properties of the poisons, are unlikely to be recorded.

Any suggestion that the resemblance between Dr. Price's phrases and my own is due to our both having reproduced portions of Dr. Mackenzie's works does not hold good. As a writer on these subjects, I am deeply indebted to Dr. Mackenzie's work and inspiration, but much, however, of the substance of my quoted paragraphs is not to be found in Dr. Mackenzie's books,[1] and although we have both published a thousand pages of printed matter upon cardio-vascular questions, such resemblances in diction as I have pointed out between Dr. Price's writings and my own (and these all occur in a few pages) are nowhere to be found.—I am, etc.,

London, W., March 29th. THOMAS LEWIS.

THE PARISH DOCTOR AND HIS OPPORTUNITY.

SIR,—The time seems ripe and opportune for the long-suffering individual known as the parish doctor to assert himself and to improve his position.

[1] *Journ. Obst. and Gynaec. Brit. Emp.*, vol. xvii. p. 461.

[1] More than one of your correspondents has fallen into the curious error of imagining that I claim the whole of the facts in my quoted paragraphs as original discoveries. I make no such claim; certain of the statements of fact are original, but I chose those paragraphs especially which show to Dr. Price's "the closest resemblance in point of diction." There are over 400 named references in my first book, and in the preface of the second book I clearly state my obligations to other writers.

District medical officers are appointed in many districts in London at salaries of £85 a year—that is, little over 5s. a day for an hour's attendance at the dispensary with sundry visits thrown in. No allowance is made for a holiday or payment of locumtenent. The panel doctor receives this sum for 250 insured patients.

Only last month the St. Pancras Board of Guardians advertised for a district medical officer at the princely salary of £50 a year; needless to say there was no applicant.

The scarcity of medical men affords a good opportunity of forcing the hands of the guardians and compelling a decent salary. Why not take occasion by the forelock? A request supported by a bold alternative from the district medical officers of each union to their respective boards of guardians would be certain in the present interesting situation of eliciting a favourable response.—I am, etc.,

London, N., April 7th. J. MORLEY LYNCH.

MEDICAL OFFICERS OF HEALTH (SUPERANNUATION) BILL.

An Appeal to School Medical Inspectors and Tuberculosis Officers.

SIR,—In the House of Commons on April 18th there is set down for second reading the Medical Officers of Health (Superannuation) Bill. Medical officers of health, whether whole or part time, are included in the provisions of the bill, which is on a contributory basis. A memorandum on the bill is contained in the April number of *Public Health*, which sets out the strong claims for the superannuation of public health officers.

Medical officers of health are now generally recruited from the ranks of the junior branches of this service—namely, school medical inspectors and tuberculosis officers, of whom there are at least three times as many as of medical officers of health. This means that there will always be the larger proportion of officers remaining in these junior branches or the service, which are paid at a salary ranging from a half to a third of that paid to whole-time medical officers of health.

Since the Insurance Act came to the assistance of general practitioners school medical inspectors are the lowest paid members of the profession. All the arguments in the bill can be urged in the case of school medical inspectors and tuberculosis officers, and the argument contained in the following extract from the memorandum on the bill can be much more powerfully urged in their favour: "Moreover they (medical officers of health) can hardly be classed among highly-paid officials, and have thus little opportunity for saving sufficient from their incomes to enable them to retire when it might be distinctly in the public interest to do so."

My object in writing is to point out that the bill does not include school medical inspectors or tuberculosis officers, and, if possible, to have an amendment incorporated in the bill during the Committee stage to make the words "medical officers of health" include school medical inspectors and tuberculosis officers.

To this end may I ask all who are interested in this matter to write to me without delay saying whether they are in favour of such a course; and to write or interview their member of Parliament urging him to assist the passage of the bill through Parliament?—I am, etc.,

ALEXANDER GRAHAM,

London, E., April 9th. School Medical Inspector, West Ham.

*** The objects of the bill were stated and some of the arguments in favour of its principle were set out in an article published in the BRITISH MEDICAL JOURNAL on March 29th, p. 677, where the large part the British Medical Association has taken in promoting this legislation was indicated.

AN addition to its series of health cartoons has recently been made by our contemporary, the *Medical Officer*, which has now published a cartoon setting forth in graphic form the various stages of a fly's development, and the fashion in which it conveys filth to food, and thus disseminates disease. It is an authorized reproduction of one originally issued by the Department of Public Health for Queensland.

Universities and Colleges.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on March 19th, Dr. Herringham, the Vice-Chancellor, in the chair.

Recognition of Teachers.

The following have been recognized as teachers of the university in the subjects and at the schools indicated:

Guy's Hospital Medical School.—Dr. Thomas M. Lowry (chemistry).

Westminster Hospital Medical School.—Dr. Oliver K. Williamson (clinical medicine).

Study in Other Universities.

It was resolved to adopt a new regulation, to be numbered 7A, permitting a student, subject to certain conditions, to take subsequently to the passing of the Intermediate Examination, a course of study extending over not more than one year in another university approved for the purpose in lieu of an approved course of study taken in this university. The University of Paris was approved in connexion with the new section.

Bequest to University College.

The University College Committee reported that a legacy of £3,000 had been left to the college by the late Mrs. F. Magrath for the award of an annual scholarship, to be called the Magrath Clinical Scholarship for proficiency in reports of cases at the bedside, to be open to medical students of the college in their fourth year. A resolution was adopted approving the payment of the legacy to University College Hospital.

Professor Arthur Robinson.

Dr. Arthur Robinson, Professor of Anatomy in the University of Edinburgh, and formerly Professor of Anatomy at King's College, has been appointed a Fellow of King's College.

Appointment of Representatives.

Sir William Collins, M.D., M.S., F.R.C.S., has been appointed a governor of Christ's Hospital, Horsham; Mr. E. L. Gowland, M.B., a governor of the Wreight and Gibbs School, Faversham; and Mr. H. B. Wilmot, M.R.C.S., L.R.C.P., has been nominated for reappointment as governor of the Latymer Foundation, Edmonton.

Lectures in Advanced Medical Subjects.

The following lectures will be delivered at the time and place indicated:

St. Bartholomew's Hospital Medical School.—May 1st, 5 p.m., Dr. M. H. Gordon: Sensitized Vaccines. May 8th, 5 p.m., Dr. H. Williamson: Some Factors of Importance in Determining the Significance of Albuminuria in Pregnancy.

University College Hospital Medical School.—May 5th, 5 p.m., Dr. T. R. Elliott: Disease and the Suprarenal Glands.

London Hospital Medical College.—May 19th, 21st, 23rd, 4.30 p.m., Dr. H. M. Turnbull: Physiological and Pathological Changes in the Structure of Arteries and Arterio-sclerosis.

Brompton Hospital for Consumption and Diseases of the Chest.—May 28th, 4.30 p.m.: The Site of Tuberculous Lesions at Different Ages.

The lectures are free, and are addressed to advanced students of the university and others interested in the subjects dealt with.

Advanced Lectures in Physiology.

The following advanced lectures in physiology are to be given during the third term:

Professor A. B. Macallum, F.R.S., eight lectures on surface tension and physiological processes, at the university on Tuesdays at 5 p.m., beginning May 13th.

Dr. S. A. Kinnier Wilson, three lectures on the anatomy, physiology, and pathology of the corpus striatum, at the university.

Mr. F. F. Blackman, eight lectures on the physiology of photosynthesis and respiration in plants, at University College on Wednesdays at 5 p.m., beginning April 23rd.

Professor T. G. Brodie, F.R.S., four lectures on the physiology of absorption, at King's College on Wednesdays at 4.30 p.m., beginning May 21st.

Dr. J. S. Haldane, F.R.S., four lectures on the supposed physical basis of life and mind, at Guy's Hospital on Thursdays at 4 p.m., beginning May 8th.

Dr. H. E. Roaf, eight lectures on the factors concerned in the volume and form changes of cells (growth and movement), at St. Mary's Hospital Medical School on Mondays at 4 p.m., beginning May 5th.

Further information regarding the lectures can be obtained on application to the heads of the laboratories at which they will be delivered.

Gilchrist Studentship.

Miss Maud F. Forrester-Brown, M.B., B.S., of the London School of Medicine for Women, has been appointed to the Gilchrist studentship for women.

University Studentship in Physiology.

A university studentship of £50 for one year in physiology will be awarded to a student qualified to undertake research in physiology, and will be tenable in a physiological laboratory of the university or a school of the university.

Rogers Prize.

The subject of the essay for the Rogers prize for 1914 will be the nature of pyrexia and its relation to micro-organisms. Copies of the regulations can be obtained from the Academic Registrar, and competing essays must be received by April 30th, 1914.

Presentation Day.

The presentation of graduates will take place at the University at 3 p.m. on Wednesday, May 7th. The annual university service will be held in Westminster Abbey on the same day at 6 p.m. when the sermon will be preached by the Right Rev. Bishop Boyd Carpenter. The service is open to all members of the university, who can obtain tickets from Mr. J. Dudley Whyte, 88, Gower Street, W.C., on or before May 1st.

Pase List.

The following candidates have been approved at the examinations indicated:

SECOND M.B. (*Part I.*).—J. A. M. Alcock, G. E. Archer, K. E. Attenborough, C. D. Banes, E. V. Beaumont, H. J. Bensted, J. A. Birrell, M. N. Bostock, *W. W. K. Brown, L. J. F. Bull, A. W. B. Carless, L. A. Celestin, C. C. Chesterman, *A. H. Clarke, Doris M. Collins, J. D. Constantin, M. C. Cooper, J. M. Courtney, R. Coyte, T. M. Cunnington, D. D. R. Dale, R. G. Dani, T. M. Davies, M. A. B. Demerdash, Hilda M. Denton, E. de Robillard, K. Dykes, T. G. Dykes, Florence M. Edwards, T. S. Evans, G. Fehrsen, E. F. Fernando, W. Fletcher-Barrett, J. L. R. Fortier, A. R. Fuller, W. B. Gabriel, A. Girgis, E. N. Glover, H. M. Gray, R. B. Hawes, N. N. Haysom, T. L. Heath, W. B. Heywood-Waddington, E. B. Hickson, F. G. E. Hill, Mary E. A. Holiday, P. Hughes, J. B. Hume, J. W. Hyatt, T. John-Thomas, V. J. F. Lack, E. H. Lake, H. W. Lewis, N. M. Lewis, R. T. Lewis, A. Lyell-Tayler, F. C. Mason, Cecily M. E. Maude, R. G. Mayer, Gladys M. Miall-Smith, M. W. H. Miles, G. G. Milne, L. C. Moore, G. Moulson, D. C. Norris, R. V. Norton, J. H. Oonvala, Margaret S. Palmer, J. W. G. Phillips, C. V. Pink, H. T. Prys-Jones, W. M. A. Rahman, Mariamne O. Ramsay, S. D. Rhind, H. N. D. Richards, J. A. W. Robinson, K. M. Ross, W. R. Rowlands, M. Schwartz, S. N. Scott, A. Selby-Green, A. Shafeek, C. E. A. Shepherd, R. G. Simpson, G. H. Sims, Lily D. Taylor, F. A. Unwin, R. N. Vakil, L. P. Waghorn, Lotty Weiherrmann, J. P. Williams, O. Williams, T. P. Williams, A. Williams-Walker, K. M. C. Woodruff, W. Yeoman.

* Awarded a mark of distinction.

SECOND M.B. (*Part II.*).—A. W. Adams, Hannah K. Alton, *†D. W. J. Andrews, E. B. Barnes, D. A. Blount, C. M. Brophy, F. W. Chamberlain, J. E. Clark, Mabel C. Clark, R. M. Dannatt, E. I. Davies, Ll. ap I. Davies, T. A. Davies, T. R. Davies, H. A. De Morgan, C. I. de Silva, J. R. Dingley, C. W. Ellison, †H. H. L. Ellison, I. Feldman, Susan A. Finch, Charlotte I. Fox, O. Gleeson, E. D. Granger, S. A. Hall, F. J. Hallinan, J. W. Heekes, Mary I. Hounsfield, P. Hudson, S. C. W. Iredale, S. W. Isaacs, *H. C. Jennings, R. B. John, C. O. H. Jones, J. G. Jones, R. O. H. Jones, S. B. King, F. A. Knott, L. G. Le Blanc, I. H. Lloyd-Williams, E. R. Lovell, H. M. C. Macaulay, O. S. Martin, Adeline M. Matland, R. G. Michelmore, S. Miller, *H. W. L. Molesworth, R. G. Morgan, A. H. Morley, Violet Newmarch, D. C. Ogilvie, B. C. W. Pasco, L. D. Phillips, Mary C. Poonen, C. L. G. Powell, A. E. Richmond, Eveleen B. G. Rivington, T. W. Robbins, G. W. R. Rudkin, J. E. Rusby, E. A. Scott, M. C. Stark, R. G. Sterling, D. C. Thomas, W. L. Thomas, H. Q. F. Thompson, J. E. A. Underwood, G. M. Vevers, H. J. Wallace, P. H. Wells, G. R. C. Wilson, W. C. S. Wood.

* Distinguished in Anatomy. † Distinguished in Physiology.
‡ Distinguished in Pharmacology.

VICTORIA UNIVERSITY OF MANCHESTER.

MR. J. S. B. STOPFORD, M.B., Ch.B. Manchester, Junior Demonstrator in Anatomy in the University, has been appointed Senior Demonstrator. Mr. Stopford graduated with honours in 1911, and was Dumville Surgical Prizeman for the same year.

UNIVERSITY OF DURHAM.

THE following degrees and diplomas were conferred at a meeting of Convocation on March 29th:

M.D.—L. F. Browne, J. G. Campbell, W. H. Edgar, I. Hodgkinson, J. C. Hoyle, H. G. G. Mackenzie, F. W. Melvin, W. R. E. Unthank.

M.D. (*for Practitioners of Fifteen Years' Standing*).—D. D. Brown, J. G. B. Coleman, W. L. T. Goodridge, A. Johnson, J. S. Robertson, W. B. Stanford, E. R. Thomas, W. S. Willmore.

M.S.—E. C. Braithwaite.

M.B., B.S.—J. S. Arkle, Theonie R. Burrell, W. L. Clements, H. G. Dodd, F. J. H. T. Frere, *C. J. Henderson, W. J. Hickey, C. H. Robson, S. Scott, R. V. Steele.

* M.B. only.

B.HY.—P. A. Galpin, W. Hudson.

D.P.H.—P. A. Galpin, W. Hudson.

UNIVERSITY OF EDINBURGH.

Honorary Degrees.

AMONGST those to whom the Senatus Academicus of Edinburgh University has resolved to offer the honorary degree of LL.D. are Emeritus Professor W. S. Greenfield and Dr. W. Allan Jamieson, both of Edinburgh; Dr. John Stewart, of Nova Scotia; Professor J. Arthur Thomson, of Aberdeen; and Professor F. Strassmann, Director of the State Medicine Institute in the University of Berlin.

UNIVERSITY OF GLASGOW.

The Pollock Bequest.

BY the death of the last surviving life-renter the bequest of £10,000 left to the university by the late Dr. Robert Pollock has fallen due. By the terms of the bequest the income of this sum is to be allotted to the Materia Medica Department to found a lectureship.

Pass List.

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—Cecilia S. T. Anderson, Janet B. Anderson, W. L. Anderson, *H. S. Banks, *R. A. Barlow, *J. S. K. Boyd, J. L. Brownlie, A. G. Buchanan, W. L. Cassells, J. Connell, R. Craig, *W. C. Davidson, W. E. Elliot, J. Fraser, W. Fraser, *W. Forsyth, A. Glen, J. L. Gregory, J. M'F. Grier, W. M. Howells, D. M. Hunter, Jane K. M'E. Hunter, J. F. Hutton, T. P. Inglis, C. J. Kirk, Mary A. Kirk, P. A. M'Callum, J. M'Ghie, Margaret H. M'Killop, M. H. MacLeod, J. H. Magoveny, W. E. Maitland, W. Montgomery, J. L. R. Philip, Sarah A. J. Rankine, F. M. Robertson, A. W. Russell, J. J. Sinclair, N. I. Sinclair, J. A. Smith, F. A. Steven, G. Taylor, E. G. Y. Thom, A. Walker, J. C. Watt, J. Whiteside, A. M. Young.

FINAL M.B., C.M.—A. P. Aitken.

* Passed with distinction in one or more subjects of the examination.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates were approved at the examination held at the end of the recently concluded forty-first session:

*†Captain C. A. Gill, *†Captain F. P. Connor, Miss C. L. Houlton, M. C. F. Easmon, ‡J. R. Boyd, ‡Miss E. M. Layman, F. W. O'Connor, Miss F. M. Harper, ‡F. C. Doble, Miss J. McDonald, ‡D. Birt, ‡W. T. P. Meade-King, ‡J. A. Hamilton, Miss S. O'Flynn, ‡G. P. G. Beckett, ‡Miss L. S. McLean, A. P. Watkins, ‡J. F. H. Morgan, ‡W. E. Lewis.

* Passed with distinction.
† Indian Medical Service.
‡ Colonial Medical Service.

Medico-Legal.

ACTIONS FOR SLANDER.

WE learn from the *Liverpool Daily Post* of April 5th that three actions for slander brought by Dr. Agnew of Blundellsands arising out of certain injurious statements affecting him professionally which had been circulated in the locality were settled at the Liverpool Assizes on April 4th, the defendants making a full retraction and apology in open court and agreeing to pay between them damages to the amount of £1,250 and indemnity costs in the form of an order for costs to be taxed as between solicitor and client. Judgement was entered in accordance with these agreed terms. In each action the plaintiff's case was conducted by Messrs. Hempson, acting for the Medical Defence Union.

ERROR IN DISPENSING.

IN a case heard at the Fenton police-court on April 2nd, before the Potteries stipendiary magistrate, in which the prosecutors were the Insurance Committee, the allegation was that pills supplied to an insured person were not in accordance with the prescription of the medical man. The prescription was for pil. ferri gr. 3, manganese peroxide gr. 1, arsenious acid gr. $\frac{1}{60}$. It was admitted on behalf of the defendants that a mistake had been made, but it was stated that this was due to an oversight. The magistrate imposed a fine of £3 and costs. The proceedings were taken under the Sale of Food and Drugs Act.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL RELIEF AT BURNLEY.

THE Local Government Board has addressed a letter to the Burnley Guardians stating that in view of the representations made to it the Board thinks it desirable that the question at issue with regard to the appointment of district medical officers should be deferred for consideration by the new board of guardians, and that in the meantime the temporary arrangements should be continued. The guardians decided to act in accordance with this intimation.

DR. W. B. ORME has been seconded from the Federated Malay States Service to act as Principal Medical Officer at British North Borneo for a period of three years.

To give Germans living abroad every facility to fulfil their military duty at home, German medical men have been appointed to examine young men in the United States, Canada, Norway, Spain, Italy, and Russia, and others have recently been added in Sumatra and Manila.

THE firm of Meister, Lucius, and Brüning completed last January the fiftieth year of its existence, and in commemoration of that fact has published a handsome volume giving some account of its labours in the field of synthetical and other pharmacy during this long period. The great development undergone by the firm is demonstrated by ground plans and other illustrations of its factories at Hoechst-on-Main at early and recent dates.

Obituary.

JORDAN LLOYD, M.Sc., M.D., Ch.B.Birm., M.B., M.S.Durh., F.R.C.S.Eng.,

SENIOR SURGEON TO THE QUEEN'S HOSPITAL AND PROFESSOR OF SURGERY IN THE UNIVERSITY OF BIRMINGHAM.

By the death of Mr. Jordan Lloyd Birmingham loses one of its most eminent citizens and the Queen's Hospital and the University a most brilliant surgical teacher. Indeed, it is no exaggeration to say that the surgical world is poorer by his removal, and the gap he has left only time can fill. Although the unsatisfactory state of his health was known to himself and to his intimate friends, his death came with shocking suddenness, for with characteristic pluck and cheerfulness he continued to perform all his duties with unabated enthusiasm, and had sought in no degree to lighten the onerous burden of philanthropic duty which he had borne for so many years. On Friday, April 4th, he had done a hard morning's operating at the Queen's Hospital, and perhaps few outside the medical profession realize the physical strain that that implies. He complained of being tired and drove to his house in Edgbaston, but was then seized with a heart attack, which proved fatal before any medical assistance could be obtained.

Jordan Lloyd was the second son of the late Dr. John Lloyd of Small Heath, Birmingham, and was born in 1854. His father was a remarkable man who studied medicine late in life, and took the M.B.Lond. when this distinction was rare in Birmingham. He taught anatomy for many years in Queen's College; he was an amateur musician and artist, amiable but eccentric in many ways, and although much appreciated by numbers of poor people among whom he worked, he did not attain and was perhaps careless of worldly success. He was not anxious that his clever son should follow in his footsteps, so that the boy, after receiving a fair education at King Edward's School, entered the office of the *Birmingham Daily Post* as a proof reader. At the same time he lived with his father, assisting him in his practice, and ultimately gave up journalism for medicine. He began his medical studies at the age of 21. His college course was extraordinarily brilliant; he swept off every prize and exhibition it was possible for him to gain until his contemporaries ceased to compete with him. As soon as he was qualified he was appointed house-surgeon to the Queen's Hospital, and afterwards continued his studies in London and Newcastle-on-Tyne where he graduated M.B. and M.S. Durham, taking the first place in both examinations. Soon after returning to Birmingham he became a Fellow of the Royal College of Surgeons.

In 1881 he was elected casualty surgeon to the Queen's Hospital, and two years later honorary surgeon, a post he held up to his death. For many years he lectured on operative surgery in the Medical School, but in 1910, on the retirement of Mr. Bennett May, he was appointed to the joint Chair of Surgery with Mr. Gilbert Barling, and undertook the greater share of the work; he was an examiner in surgery to the University of Durham. His duties as surgeon to the Queen's Hospital were insufficient to satisfy his craving for work, so that he sought and obtained the post of visiting surgeon to the Poor Law Infirmary, which involved no inconsiderable number of operations. In 1889 he was acting surgeon to the 1st Warwickshire Volunteers, and on the formation of the Territorial Army he received a commission as Lieutenant-Colonel R.A.M.C.T., and was appointed officer commanding 1st South General Hospital South Midland Division. At one time he lectured on physiology at the Midland Institute; he was a St. John Ambulance lecturer and lecturer to the Birmingham Athletic Institute.

He held most of the offices in the Birmingham Branch of the British Medical Association, presiding over it in 1903–4, and was for a few years on the Central Council. All who were present at the Birmingham Meeting in 1911 will remember his brilliant Address in Surgery. He was an ex-President of the Midland Medical Society, and of Queen's College Medical Society. He gave the Ingleby Lectures in 1891. He was consulting surgeon to the Children's Hospital, the Dental Hospital, and the West Bromwich Hospital, and a Justice of Peace for the city.

It is to be regretted that he never found time to incorporate the fruits of his great experience in a book, but he postponed it to the time when he should have less to do—a time that never came. He would have retired from the Queen's Hospital next year under the age limit. His comparatively few contributions to surgical periodical literature were invariably striking and original. For two years (1886–88) he edited the *Birmingham Medical Review*, in conjunction with the late Dr. Foxwell.

This catalogue of his many activities may be incomplete, but shows how fully occupied was the life he led.

In 1887 he married the eldest daughter of the late Mr. Mercer H. Simpson, the proprietor of the Theatre Royal, and leaves a family of three daughters and a son.

Mr. Gilbert Barling, Vice-Chancellor of the University of Birmingham, writes: Mr. Jordan Lloyd was a very brilliant surgeon, especially as a manipulator—bold, quick, and very ready in any difficulties. He had, above all things, a most keen and vivid interest in his work. It was not merely a matter of earning an income or holding an office. The study of disease in itself and the opportunity to relieve it was to him a real gratification and an ever-present interest. He was a very fine teacher and lecturer, and the Address in Surgery which he gave at the Meeting of the British Medical Association in Birmingham in 1911 was a brilliant performance—quite a *tour de force*. In his earlier days, when of course he had more leisure, he made a number of interesting inquiries and researches into various forms of surgical disease, and the papers he wrote at that time are still quoted as authoritative on the conditions of which they treated. It had been a matter of great regret to his friends and colleagues during the last few years that his health had seemed to be rather strained, and that he was not always able to do himself full justice. He will be long and affectionately remembered as a brilliant son of the Birmingham School of Medicine.

Professor Saundby writes:

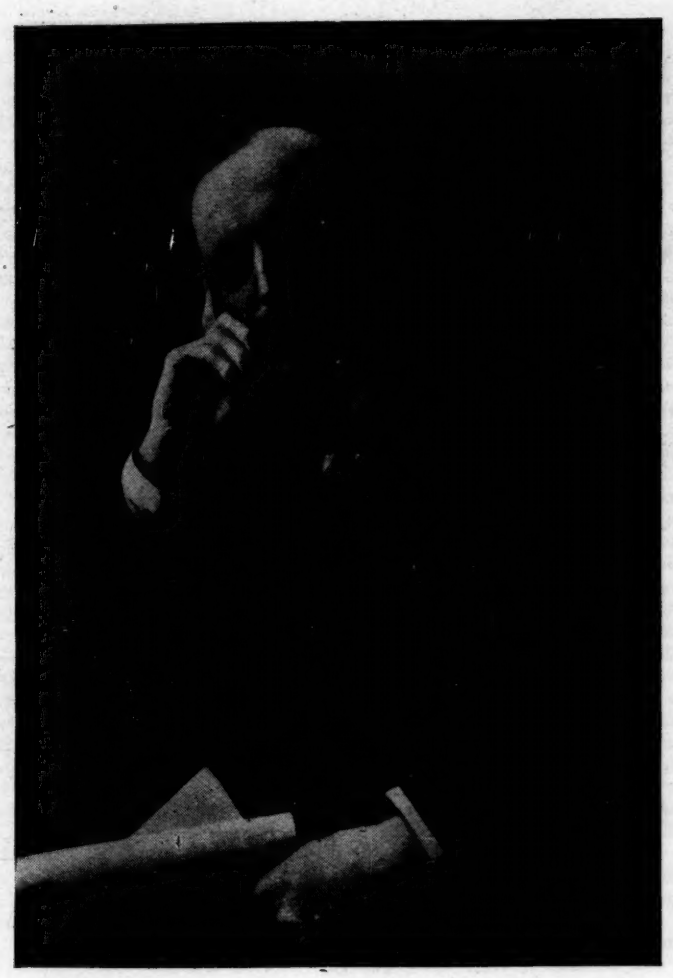
I have known Mr. Jordan Lloyd since he came to the General Hospital as resident surgical assistant in 1876. I was much impressed by the ability he displayed, and I had some conversation with him about his education, urging him to try for higher qualifications, as he had not entered for the first fellowship or the London M.B. He told me his father thought it was unnecessary, and as it was his intention to join his father's practice he should only try for the ordinary diplomas. However, his own, and probably his father's, views became modified by his wonderful success as a student, and he was undoubtedly encouraged greatly by his teachers, the late Mr. Sampson Gamgee, Mr. Furneaux Jordan (to both of whom he always expressed himself as owing much), and by Mr. Lawson Tait, who early appreciated his surgical talent. I watched his progress with sympathy, and, although others better qualified can express what was thought of his originality and skill as a surgeon, I saw enough to show me that he stood in the front rank as an operator—bold in resource, and marvellously capable of carrying out his carefully devised plans. His almost boyish enthusiasm for his work lasted throughout, and enabled him to overcome the disadvantages of a frame never robust, and of the ill health that weighed him down during recent years.

He was a charming speaker, with something to say that was always fresh, and no man enjoyed greater popularity as a teacher and consultant; in both these capacities he will be greatly missed. He was of a singularly affectionate disposition, and possessed a winning manner which gained him many friends and softened his relations with those who at times differed from him in policy. His domestic life was especially happy. His last words were highly characteristic of the man: "What shall I do? I shall have to give up my work!" He lived for his work; he could not take holidays; when he went away he fidgeted all the time, and wished himself back at work. He did not employ a secretary but wrote all his own correspondence, and would not accept assistance from his wife or daughters. Although he had been warned of the dangerous nature of his recent attacks he would not reduce his work. He did four or five operations on the Friday morning, and, unfortunately, one of the patients, a child, stopped breathing; he performed artificial respiration

himself, and had the satisfaction of seeing it recover, but it is only too probable that he gave his own life in exchange. He drove home in a cab, but on arrival collapsed and felt sick; he lay down on the hearthrug in front of the dining-room fire and had a terrible anginal attack, which was relieved by amyl nitrite; he described it as worse than anything he had gone through before. He sat on the sofa, but after a short interval began to retch again, complained of a return of the pain, drew two or three deep breaths, and died before any medical assistance had arrived. Two of his daughters were with him, but his wife, who had been out shopping, arrived before they had realized that he was dead.

Emeritus Professor BENNETT MAY writes:

Jordan Lloyd followed soon after me on the staff of Queen's Hospital, and at once it became apparent that we had acquired a man of the keenest powers of observation with a fresh and original mind, whose manual dexterity foretold what he soon became—an artist in his work, a master of surgical handicraft, and *facile princeps* as an expert operator. He rapidly gained the first place in the estimation of all at the hospital, and his prestige he retained until his untimely death. His professional life covered the great period of the surgical renaissance to which he has contributed in an important degree. It is perhaps difficult to single out any special subject with which to associate his name, for his range was wide and in most directions he excelled; to many he made valuable improvements and additions. Perhaps his work in kidney and gall-stone surgery may be especially mentioned, as these subjects then offered a fine field for his almost unrivalled powers of surgical diagnosis, which he carried into action with rare ability and success. His work in cranial surgery also was extremely good, both in diagnosis and execution. I do not think any one can have removed the Gasserian ganglion oftener or with more brilliant success; it was an operation he did in masterly style. Moreover, he possessed an instinctive and almost magical accuracy in the diagnosis of fractures. His emphatic but always genial and engaging manner gave force to his opinions, which he expressed with freedom but always naturally and unaffectedly, while his merit as an exponent of surgery is too well known to need comment. Like other wise and honest men he did not hesitate to condemn and to drop what he knew to be useless or believed to be wrong. We, his colleagues, knew that we were the better for him, and that it was good for us to know him and to work with him. Of success in practice and of wide and warm professional and public esteem he reaped ample measure, but, now that it is too late, I do wish that a man of such substantial and rare abilities, who did so much for humanity and finally died in its service, had received some form of public honour or recognition. It should have been.



Photograph by] JORDAN LLOYD. *[Lafayette, Manchester.*

Professor J. T. J. MORRISON writes:

The sudden sundering, after nearly thirty years, of a friendship ripening with time into close intimacy and affection, leaves a beclouded sense of loss which may be understood but cannot be expressed. Under this shadow to pen a fitting tribute to the memory of Jordan Lloyd within narrow limits of time and printed space is a hard task, and I can but offer a few inadequate sentences.

By the untimely passing of Jordan Lloyd a host of personal friends and the whole profession are made the poorer. At the Birmingham University and the Queen's Hospital it is no disparagement of the competent men who succeed him to say he cannot be replaced. For he was a man of genius, with the rare adjuncts of a sunny disposition and common sense. His personality was, indeed, chiefly notable inasmuch as he possessed in himself many fine qualities not often found so developed and assembled in one man. His clear intellect gave him distinction even among first-rate men. But in addition to being thus endowed, he was a man of strict integrity, dauntless courage, intense energy, and iron will. And all these elements of character were pervaded by the warmth of a genial soul, whose unfailing current of cheerfulness, and not seldom mirth, made him the most delightful of companions. By means of his many public and private activities he was one of the best known men in his native city of Birmingham, and he was also one of the best liked. His unaffected friendliness to high and low alike, which never diminished, was one of his winning charms. He had a large measure of that essential in the equipment of a surgeon — sympathy — and his sincere kindheartedness was instinctively felt by his patients, even the poorest. On occasion, actuated by a keen sense of justice, he could be a strenuous fighter — always by honourable methods, for, if he was a resolute antagonist, he was also one of the fairest. As a colleague he was loyal to the core. It is not too much to say that his influence in promoting comradeship will be no less missed than the stimulus of his surgical zeal.

He was a devoted husband and father, brimful of happiness in the home circle, which he entered from the "crowded city's jar" to find solace in the love of an affectionate family. On the deepest subject of all I know, from privileged converse, that his attitude was thoughtful and reverential.

In contemporary surgery Jordan Lloyd was one of the recognized masters. The range of his surgical knowledge was very extensive, and I have never met his superior as a diagnostician, nor his peer as a brilliant operator. Working as he did for years in three public institutions and with a large private practice, it may be doubted if any surgeon in this country has performed more major operations. The scene of many triumphs was the Queen's Hospital theatre, where his astonishing manual dexterity (aptly termed by a colleague "three-handedness") won the admiring envy of beholders. But there were other traits

—coolness, rapidity, boldness within safe bounds, precision, and ingenuity were all conspicuous, and the results were an unsurpassed success. Until recent years Jordan Lloyd was unfamiliar with other clinics. Trained in Birmingham on old-fashioned lines, his originality forsook outworn grooves, raising him at once to the front rank, and marking his work from first to last with an intensely individual stamp. He looked askance at what he deemed superfluous apparatus, holding that a surgeon must rely on his cultivated faculties to the utmost, and in keeping with this view the contents of his instrument bag were of unique simplicity. As a chief, he was unsparing of himself, and he obtained the unstinted service of his house-surgeons, whom he inspired with his own enthusiasm, many of them being now distinguished hospital surgeons. His rapid success in practice was a loss to surgical literature, for it left him little connected leisure for writing. His friends regretted this also for his own sake, for, great as was his reputation, his genius entitled him to a larger meed of fame and honour than he lived to receive. His articles on cysts in relation with the pancreas, renal surgery, and spermato-cystitis, and his address at the Annual Meeting of the Association in 1911, indicate his unquestioned ability to produce original work of permanent value.

As a teacher Jordan Lloyd's power of lucid exposition was remarkable, and he could draw from rich stores of knowledge garnered in the main from first-hand experience. Lectures were enlivened by vivid word pictures and the play of humorous fancy in a way that impressed his teaching indelibly. That he was the most popular teacher in the school was shown by the throng of successive generations of students crowding to his weekly out-patient clinic.

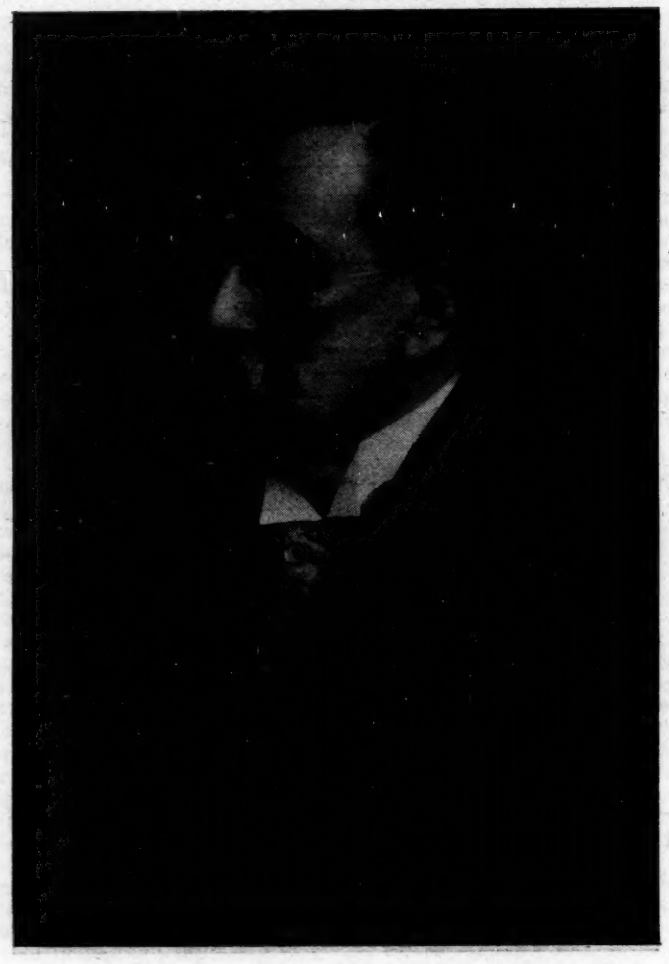
His force and skill were unabated to the end. A fortnight ago I heard him deliver an excellent speech from a public platform; and on the last morning he performed with masterly technique the day's quota of six operations while death was clutching at his heart.

The promised holiday was too distant, and Jordan Lloyd, tireless worker and lovable man, is gone, prematurely, because his spirit was too ardent for a fragile frame.

. . . Quantum instar in ipso est!
Sed nox atra caput tristi circumvolat umbra.

Mr. C. LEEDHAM-GREEN (Surgeon to the Queen's Hospital, Birmingham) writes:

By the sudden death of our colleague, Jordan Lloyd, English surgery has been deprived of one of its most gifted exponents. Endowed with quite exceptional ability, and unfavoured by any adventitious circumstances, through sheer talent he rapidly rose to a leading position in his profession. As an operator he had few equals, for, possessed of wonderful manipulative dexterity and fertility of resource, he was an expert craftsman in every sense of the word. The rapidity and precision with which he would carry out the most difficult of operations with the minimum of assistance at times almost bordered on the marvellous. Owing to this rapidity of execution and to the infliction of the least possible damage to the tissues, he dispensed, and successfully dispensed, with much of the elaborate detail of aseptic technique on which less gifted men have to rely. His popularity with the students was unbounded, for, in a genial and easy manner he would portray at the bedside the salient features of a case with an incomparable vividness and lucidity. All Jordan Lloyd wrote, all he said, and all he did, was stamped with an originality and illumined by a flash of genius, which raised it far above the commonplace. For his colleagues his death can never efface the inspiration of his life and work.



Photograph by] SAMSON GEMMELL. [*T. and R. Annan, Glasgow.*

SAMSON GEMMELL, M.A., F.F.P.S.GLASG.,

REGIUS PROFESSOR OF MEDICINE, GLASGOW UNIVERSITY; SENIOR PHYSICIAN TO THE WESTERN INFIRMARY, GLASGOW.

By the death of Dr. Samson Gemmell, Glasgow has lost one of her most distinguished medical men. Professor Gemmell seems to have been in his usual vigorous health, and, except for a trifling shortness of breath, had no indication that there was anything wrong. In the beginning of the week he had completed the final examination for the medical degrees by presiding at the meeting of examiners to determine the pass list. On April 1st he had paid his usual morning visit to the Western Infirmary, and thereafter, as was his custom, had walked over the hill up to the college, and so home to his house. During part of this, his last, walk he was accompanied by one of his university colleagues, with whom he had discoursed vigorously on university and political topics. Soon after reaching his house he was seized with illness, and before assistance could be obtained had almost breathed his last. It is believed that he succumbed to heart failure.

At the time of his death he was in his 66th year. He was born in the little Ayrshire village of Catrine, and received his early training there before proceeding to the University of Glasgow for his education. One of a large family, Gemmell was brought up in a strict fashion by his father, who was a rigid disciplinarian. At first destined for a Civil Service career, Gemmell spent the first three years of his college life in the arts side, but when it was found that, owing to a physical defect, he was debarred from entering the Civil Service, he commenced the study of medicine. His great industry and mental ability soon gained for him an honoured place among his contemporary students, and he crowned a distinguished undergraduate career by obtaining, in 1872, the medical degree with honours. Thereafter for some time he acted as houseman in the Royal Infirmary in the medical wards under the late Sir William Gairdner, and afterwards for a short time acted as a demonstrator of anatomy under Professor Allan Thomson. But his interests really lay in the clinical aspects of medicine, and he proceeded to develop his clinical knowledge by the study of fevers. Accordingly, for the next three years, from 1873 to 1876, he acted as resident physician at the City of Glasgow Fever Hospital, and came under

the influence of the late Dr. J. B. Russell. On giving up that appointment he commenced private practice, and was fortunate in being taken on by the late Sir William Gairdner as his university assistant. This post he held for eight years, and during the last four of them he also acted as clinical assistant to Sir William Gairdner.

The next important step in his career took place in 1880, when Gemmell was made Professor of Medicine in Anderson's Medical College, succeeding the late Matthew Charteris, who had been called to fill the chair of materia medica in the university. In the same year he joined the Faculty of Physicians and Surgeons. From the very beginning of his Andersonian career Gemmell proved a success. His class soon outnumbered the corresponding university class. His command of English and his power of expressing himself in flowing phrase impressed his hearers and stamped him an interesting and successful lecturer. Meantime he was increasing his clinical experience. In 1881, after the usual service as extra-dispensary physician, he became full physician to the Dispensary of the Western Infirmary. In 1886 he was appointed physician to the Hospital for Sick Children, and in 1887 he obtained wards in the Royal Infirmary. His success as a clinical teacher was almost as great as his success as a lecturer on medicine, and after five years' work in the Royal Infirmary he was transferred to the Western Infirmary to fill the vacancy caused by the retirement of Dr. Tennent in 1893. He retained his connexion with the Western till the last, and at the time of his death had been for several years senior physician.

After lecturing with great success in Anderson's College for ten years a vacancy in the Chair of Clinical Medicine was caused by the promotion of Professor McCall Anderson to the Regius Chair of Medicine. To the vacant Clinical Chair Dr. Gemmell was appointed, and thereafter for eight years filled it with distinction. On McCall Anderson's death, in 1908, Professor Gemmell was pressed by his colleagues to become Regius Professor of Medicine, but he had no personal desire or ambition to resume the arduous task of theoretical lecturing. Eventually, under severe pressure, and only on the plea that it was his duty to his Alma Mater, he unwillingly consented to the desire of his colleagues, and duly became Regius Professor of Medicine. His consent once given, he threw himself whole-heartedly into the work, and again his unrivalled powers of exposition repeated the old story of his Andersonian success. Though a busy consultant, whose services were in constant demand by the professional brethren, he allowed nothing to interfere with his university work, and ungrudgingly devoted his forenoons to his professorial duties. He had his reward in the loving esteem and respect in which he was held by his students.

Indeed, it is entirely as a teacher that Professor Gemmell will live. Trained under the late Sir William Gairdner, he was the chief exponent of Gairdnerian methods in the Western Infirmary. His continual insistence on the necessity of a sound knowledge of physical signs has had a beneficial effect on many generations of students. Few students who have ever passed through his wards are ever likely to forget how to write a good clinical report: not only must the facts be accurately observed, but the phraseology in which the report was made had to be in good, crisp, vigorous form. Dr. Gemmell was by no means antagonistic to the modern advances in the methods of diagnosing disease, but he was by nature of a sceptical disposition, and a long experience had taught him the lesson that "all that is new is not true, and all that is true is not new." His attitude to the newer development of medicine is perhaps more truly indicated by the fact that his clinical assistants were men actively engaged in developing these very new methods. As a clinical teacher Dr. Gemmell had a great power of eliminating the unessentials, and getting down to the essential features almost immediately. As a professor he struck the average student as being rather inaccessible, but those in trouble knew how kind he could be. He did not mix much with other men, and infinitely preferred the quiet of his study and the companionship of his beloved books to any social function.

It is a great pity that a man of Dr. Gemmell's powers of observation and description had not more frequently contributed to medical literature, but as a matter of fact his writings are singularly few. By far the best known are his articles in Finlayson's *Clinical Manual*, which makes it all the more to be deplored that his matured judgements have not received permanent record.

M.B.GLASG. writes:

We have lost Samson Gemmell. The inward meaning these words convey can only be conceived by graduates of my Alma Mater and by those whose proud privilege it was to reckon him as their friend.

It is only three short weeks ago that the writer walked through Kelvingrove Park with him, when Professor Gemmell discussed the life of a great man who had passed away, and finished his remarks by saying: " . . . and so you see, even though he had attained to a ripe age, his physical and mental faculties were as active and acute as they were twenty or thirty years ago, and there he was nipped off, in the midst of all his great powers of doing good, not only to his own nation, but to the whole world. It seems strange how these colossal minds with their wealth of intellectual lore are gathered in, and so many of the riff-raff that could well be spared—from our point of view—are left." How well his remarks on that occasion now apply to himself those who knew him will appreciate. No man was ever more fitted for his position in this life than Samson Gemmell, and that he was justly proud of it was shown when he wrote: "Fortune has favoured me by my appointment to the chair held by Cullen, Black, and Gairdner. . . . "

To his students Gemmell was a continual inspiration. In his wards every case was gone into with the thoroughness of the born clinician, and woe betide the man who showed evidence of slovenliness in his clerking! At these times he would assume a satirical manner, pointing out the errors in composition or physical examination in such a fashion as was engraven in the memory of the greatest sluggard for life. Afterwards, when walking home, he would place his arm affectionately round one's shoulder and say: "Oh, if you boys only knew how jealous I am of your futures, and that you may all do well, you would then know that it hurts me more to speak like that than it does you who are spoken to."

Men who were made of the proper stuff felt instinctively when in contact with Gemmell his absolute genuineness and thoroughness, and so he was affectionately known to them as "Sammy" Gemmell. Not only was he the true friend of his students, but in one or two minutes he had endeared himself to his patients in the wards. I used to marvel—when a student—at his seeming omniscience, for often when he sat down at a bedside he would inquire of the patient where he resided, and no matter what out-of-the-way hamlet he came from, Gemmell could almost always remind him of some landmark, or quote some passage on a stone in the local kirkyard, or know some local worthy which made the man first wonder, then become his ardent worshipper during the remainder of his residence in hospital. But as with slovenly students, so with the malingering or carping patient, there was no bond of sympathy there, all sign of friendship was non-existent, and though his remarks were few they were barbed.

Professor Gemmell felt his responsibilities keenly, and the time he devoted in his wards was given in the most magnanimous fashion for so busy a man, though I suppose he felt he was only carrying out his duty. He loved his wards, and writes: ". . . I yet hope to see you here, if it were for nothing but to show you my splendid wards in the 'Western'"; and there he was always to be found every morning at nine o'clock going his round, which was performed in no perfunctory fashion, but with the most assiduous attention to the last detail, a habit so essential to his nature.

His classes, clinical and systematic, were always the most sought after, and his systematic lectures were delivered with such an abundance of clinical detail that one saw clearly in his mind's eye the patient suffering from the disease he was for the time describing. In the wards of the Sick Children's Hospital, Gemmell's handling of a child was an object lesson for every man, for he loved children. I remember him telling me with great glee how he had shocked an old lady who was unaware that he was unmarried, and who had asked him how many children he had. He had replied that at the present moment he had some twenty-eight! He then nodded his head in the

direction of the Sick Children's Hospital, and with a smile said to me, "They're all up there, and I love every one of them."

It has always been a matter of keen regret to me that so great and grand a man in the profession was not more widely known. There are pigmies in intellect compared to him whose names are known throughout the length and breadth of the land by reason of their writings, but Samson Gemmell seemed to have an aversion to public writing. I remember telling him that I thought of publishing a case we had been discussing, and he remarked: "Be careful what you put in print, for in a few years you may have reason to regret it."—I offer this as a possible reason why there is left on record so meagre an account of the magnitude of his life's work, though I do not wish to convey the impression that he was afraid of his convictions—far from that—for Gemmell was essentially a strong man. Nevertheless, it is a thousand pities, and the world is left so much the poorer.

THE LATE DR. CHUNE FLETCHER.

DR. BERNARD MYERS writes: The news of the untimely death of Dr. Chune Fletcher has come as a great shock to his large circle of friends, both lay and professional. It is indeed hard to realize that one so robust looking as was Dr. Fletcher has parted from us and joined the great majority. How deeply he will be regretted is comprehended when we reflect on the sterling manly qualities of one who was not only greatly gifted by Nature physically but who also embodied within himself a remarkable personality, being possessed of a fine intellect, a truly kind heart, and the very essence of courtesy and tact. His knowledge of medicine was thorough, whilst his untiring attention to his patients won for him their heartfelt gratitude and lasting affection. Those of his professional brethren who had the pleasure of his intimate acquaintance will bear me out when I state that Chune Fletcher was the ideal medical man. Dr. Chune Fletcher had done a good deal of most interesting work in medicine, but being of a retiring nature he preferred to use his knowledge quietly in the interest of his patients and for the benefit of his professional brethren. Indeed, I believe that nothing gave him greater pleasure than to lend a helping hand to another medico. Among other subjects that he worked at were the medical treatment of adiposity and also paralysis agitans. He certainly achieved some almost remarkable successes in these complaints. Dr. Fletcher was a born post-prandial speaker. Probably his faculty for saying the right thing at the right time, together with his other qualities, would have ensured him brilliant success at the bar. An old Bart.'s man, he retained his intense interest for his old hospital to the last. To go over Bart.'s with him was almost equivalent to being instructed by one of his delightful dissertations upon the whole history of Bart.'s, Smithfield, and the ancient tournaments.

DR. HENRY WATERS died at his residence, Stanley Road, Bootle, Liverpool, at the early age of 39, on March 29th. He received his medical education at the University of Edinburgh and graduated M.B., C.M. in 1899, and before settling in Bootle had been honorary physician and surgeon to the Berwick-on-Tweed Infirmary. For seven years Dr. Waters had been an active working member of the British Medical Association, and devoted much time and energy to the furtherance of its interests. He had filled the offices of chairman and secretary of the late Bootle Division, and from 1908 to 1911 was the Representative of the Division at Representative Meetings. He was also a member of the late Provisional Medical Committee of the Liverpool Division. It had been painfully evident to many of his colleagues that for some time his health was in an unsatisfactory state, but he persisted in keeping at work until compelled at length to yield late in December last; since then he had been confined to bed. The interment took place on Monday, March 31st, at Longmoor Lane Cemetery, and was attended by a number of the local members of the profession, by whom the late Dr. Waters was held in the highest esteem. He leaves a widow and two children to mourn the loss of husband and father.

Dr. HENRY PRESCOTT ROBERTS, late of Ealing, died in a nursing home at Ladbroke Grove, London, on March 16th, aged 66. He was educated at Edinburgh, where he took the M.B. and the L.R.C.S. in 1868 and the M.D. in 1877, and entered the Bombay Medical Service as Assistant Surgeon on April 1st, 1869, becoming Surgeon on July 1st, 1873. His whole service in India was spent in military employment, chiefly in the 9th Bombay Infantry, and during it he served with the Malta-Cyprus contingent in 1878, and in the Afghan war. On December 11th, 1880, he resigned his commission and returned home, and soon after settled in practice in Ealing, where he remained about thirty years. He retired from practice and settled in Hythe about two years ago.

DEPUTY SURGEON-GENERAL JOHN MILLS, Bombay Medical Service, retired, died at Yateley, Hants, on April 1st. He was born in 1831, and got his first commission as assistant surgeon on April 3rd, 1848, becoming surgeon on June 15th, 1864, and surgeon-major on April 3rd, 1868; he retired with a step of honorary rank on January 1st, 1876. In the days when he went to India almost every young medical officer of the Bombay Service had to begin with a tour of duty in the Indian Navy, and he spent his first few years of service afloat. In 1853–55 he was on furlough, and on his return served in the Persian war, being present at the battle of Khushab, and receiving the medal and clasp. After the war he was posted as Superintendent of Vaccination, Southern Division, became civil surgeon of Dharwar in 1861, and in 1862 of Kolhapur, a post which he held for five years, going on leave again in 1867. On his return to India he was appointed medical officer of the 21st Bombay Infantry, then the Marine Battalion, now the 121st Pioneers, and spent the rest of his service in that regiment.

BRIGADE SURGEON CHARLES FREDERICK OLDHAM, Bengal Medical Service, retired, died at Great Bealings, Suffolk, on March 25th, 1913. He was born on January 2nd, 1832, educated at St. George's Hospital, took the M.R.C.S. in 1858 and the L.R.C.P.Edin. in 1859, and entered the Indian Medical Service as Assistant Surgeon on July 27th, 1859. He became Surgeon on July 27th, 1871, Surgeon-Major on July 1st, 1873, Brigade Surgeon on October 24th, 1887, and retired on February 28th, 1890. After joining the service he served for some time in the Aligarh Levy, afterwards the 39th Bengal Native Infantry. In the Sixties he was for some years a civil surgeon in the Punjab, at Gurdaspur and Dalhousie, and afterwards medical officer of Bahawalpur State. In 1875 he was posted to the 1st Gurkhas, at Dharmsala, and spent the rest of his Indian service in that regiment. He took part in the Perak Expedition of 1875–76, gaining the medal and clasp, and in the Afghan war in 1878–79, with the Thal Chotiali Field Force, when he received another medal. In 1871 he published a work entitled, *What is Malaria, and why is it most Intense in Hot Climates?*

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Ascherson, the famous botanist of Berlin; Dr. Algernon T. Bristow of Brooklyn, professor and visiting surgeon at the Long Island College Hospital, and editor of the *New York State Journal of Medicine*, age 61; Dr. Luiz da Cunha Feijo, professor of obstetrics and gynaecology in the faculty of medicine, Rio de Janeiro; Dr. Howitz, sometime professor of gynaecology in the University of Copenhagen, aged 84; Dr. Huber of Memmingen, an authority on the history of medicine and author of numerous contributions to the literature of that subject, and also to that of helminthology in which he was a specialist; Dr. T. E. Moret, extraordinary professor of ophthalmology at Buenos Aires; Dr. Prince A. Morrow, a leading dermatologist of New York, aged 66; Dr. O. Pertik, professor of pathological anatomy at Peste; Dr. Max Reiner, lecturer on surgery in the University of Vienna, aged 46; Professor Seeman, director of the Physiologico-Chemical Institute of the Academy of Practical Medicine, Cologne; Dr. Hugh A. Stewart, professor of pathology at Columbia University; and Dr. N. P. Tischutkin, lecturer on histology in the Military Medical Academy, St. Petersburg, aged 45.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

PRIZE DISTRIBUTION AT HASLAR.

THE course for Acting Surgeons, Royal Navy, was brought to a close on March 28th at Haslar, when the prizes were delivered by Surgeon-General Howard Todd, C.B., K.H.S.

The Instructing Medical Officers reported that the young medical officers had been diligent, had shown interest in their work, and had taken advantage of the opportunities afforded them of acquiring the special knowledge necessary. Special commendation was given to Acting Surgeons Malone, Whelan, and Cory for the zeal and ability they had generally displayed.

The Gold Medal was gained by Acting Surgeon A. E. Malone, of Dublin University, who obtained the highest aggregate marks in the London, Greenwich, and Haslar examinations. The Silver Medal was gained by Acting Surgeon H. M. Whelan, of University College, Cardiff, and the London Hospital, who took second place. The group prize for the subjects in which instruction is given at Greenwich was awarded to Acting Surgeon A. E. Malone. The group prizes of the instruction given at Haslar were awarded as follows: Group I: Acting Surgeon H. M. Whelan. Group II: Acting Surgeon R. F. P. Cory (St. Thomas's Hospital).

The order of seniority as determined by the results of the examinations held at London, Greenwich, and Haslar is as follows:

	Marks.		Marks.
1. A. E. Malone, M.B. ...	3,664	6. J. T. D. Higgins, M.B. ...	2,872
2. H. M. Whelan	3,502	7. J. G. Boal, M.B.	2,860
3. R. F. P. Cory	3,467	8. F. S. B. Wickham ...	2,345
4. H. St. C. Colson	3,371	9. S. Punch	2,833
5. G. A. Finegan	3,069		

SANITARY TRAINING OF THE TERRITORIAL FORCE.

MAJOR E. C. FREEMAN, M.D., writes: I am very grateful for a kind and sympathetic review, in the JOURNAL of April 5th last, of an article of mine which has appeared recently in the *R.A.M.C. Journal* on sanitary training of the Territorial Force. Your reviewer has, however, misread my views on one important point, and I would ask your permission to make the necessary correction, as the matter is a vital one. Nothing was further from my mind than to suggest that "camp sanitation" was not of much value to Territorials. In war, although Territorials will have no tents, they will very frequently have to bivouac in the open; in the early stages of mobilization they will probably be under canvas, and every year during training they are in camp for a fortnight. Disease germs do not distinguish between peace and war or between camps and bivouacs. What I wished to convey was that the sanitary companies of the Territorial Force should not, as at present, confine their training to camp sanitation, but should go on and learn the working of town water supplies, sewage systems, and so forth, because in war the Territorial troops will be frequently quartered in towns, and arrangements will therefore have to be made for a great and sudden influx of population into these places—often after the municipal services have been broken down or seriously injured, and much more than a knowledge of camp sanitation will then be required to cope with these conditions and prevent epidemics. But the sanitary companies should be specialists, and it was about them I wrote. For the rank and file of the Territorial Force, or of any other troops, I would insist on the immense importance of a knowledge of camp sanitation, and for that we have worked in the East Anglian Division for the last five years.

THE total number of students in the universities of Austria in the winter session 1912–13 was 30,591. Of these 6,439 belonged to the faculties of medicine, of whom 420 were women. The total number of medical students matriculated in the medical faculty of Vienna during the past winter was 2,505, of whom 152 were women. In the University of Graz there were 572 students, including 12 women. At Innsbruck the number of medical students was 350, 3 of whom were women. In the German University of Prague there were 572 in the medical faculty, of whom 21 were women. At the Czech University of Prague there were 932 medical students, of whom 51 were women. In the University of Lemberg 629 belonged to the medical faculty, 106 of these being women. At the University of Cracow there were 600 students of medicine, of whom 62 were women. The number of medical students still shows an increase, this tendency being specially notable in the case of women.

Medical News.

THE State Sickness Insurance Committee, at its meeting on April 10th, referred to the Amendments Subcommittee a motion by Dr. Beaton to the effect that any Insurance Act Amendment Act should provide for (1) free choice of doctor whether on or off the panel, (2) a satisfactory income limit for all insured persons, (3) such increase in the number of doctors and representatives of employers on the Insurance Committees as shall prevent the insured persons having a permanent majority on these committees.

MR. JOHN JONES, of Wrexham, has left £50,000 to the Wrexham Infirmary, of which he was vice-president, and has also given for the use of the infirmary Roseneath House and grounds, Wrexham, and the Claremont Hydropathic at Rhyl.

WE are asked to state that the offices of the National Medical Guild, to which reference was made last week (p. 729), are at 34, Villiers Street, Strand, London, W.C. The rules of the Guild will be supplied on application to the general secretary.

MESSRS. LEITZ, of Wetzlar and London, have recently celebrated a kind of jubilee by presenting to Professor Ehrlich the 150,000th compound microscope made by them. On an earlier like occasion, the completion of the 100,000th Leitz microscope, they presented the instrument to the late Professor Robert Koch.

AS announced in our advertisement columns, an examination for commissions in the Royal Army Medical Corps will be held on July 23rd next. Applications to compete should be sent in to the Secretary, War Office, by July 14th. Owing to the reduction of the garrison in South Africa it is improbable that more than five commissions will be available.

A CONFERENCE on the feeding of elementary school children, and of those in various philanthropic and other institutions maintained for children of like class, is to be held at the Guildhall on June 30th and July 1st this year. It has been organized by the National Food Reform Association on the same lines as those of the conference on diet and hygiene in public secondary and private schools in May, 1912.

THE spring course of museum demonstrations at the Royal College of Surgeons of England will begin on Monday next at 5 p.m., when Mr. Shattock will demonstrate specimens illustrating hypertrophy. On the two following Mondays he will show specimens illustrating atrophy and lipomata respectively. Professor Keith will give demonstrations on April 18th, 25th, and May 2nd, on acquired deformities of the foot and spine, and on the formation of peritoneal adhesions and bonds before and after birth. The demonstrations will be given at 5 p.m. on each day.

THE annual meeting of the Ophthalmological Society of the United Kingdom will be held on April 24th and 25th at the house of the Royal Society of Medicine, 1, Wimpole Street, W. There will be a morning and afternoon session on each day. The morning session on Friday, April 25th, will be given up to a discussion on vascular and other retinal changes in association with general disease, and the afternoon to a demonstration of cases at Moorfields. An exhibition of ophthalmic instruments, etc., will be held during the two days at the house of the Medical Society of London.

THE second list of stewards of the dinner of the Royal Medical Benevolent Fund and Guild, to be held on April 30th, under the chairmanship of H.R.H. Prince Arthur of Connaught, to celebrate the title "Royal" conferred by the King last year, has been issued. It includes the names of Dr. T. Dyke Acland, Professor D. W. Finlay, Lady Godlee, Director-General Sir William Gubbins, K.C.B., Sir Frederic and Lady Hewitt, the Hon. Mrs. Mark Hovell, Dr. H. Macnaughton-Jones, Director-General Sir James Porter, R.N., Dr. S. J. Sharkey, Sir Frederick Treves, Professor Sims Woodhead, and Mr. G. A. Wright.

THE Finsbury Medical Guild celebrated its inauguration at a supper which was held on April 3rd, at the Holborn Restaurant. Fifty members and medical friends were present, and Dr. F. J. Smith was the guest of the evening. Amongst those present as guests were Drs. E. B. Turner, Buttar, Gordon Ward, Gordon Lane, and Whitelaw. The President, Dr. Eber Chambers, was in the chair, and a presentation was made to Dr. W. F. Roe, which took the form of a substantial cheque, in recognition of his services

as honorary secretary to the City Division Provisional Medical Committee. The testimonial was subscribed to by the members of the profession in the City Division, many of whom were present. During the evening songs were contributed by several of the members.

AT a special meeting of the Board of Governors of the Leicester Royal Infirmary last week, Mr. C. J. Bond, whose resignation of the office of senior honorary surgeon had been received with much regret, was unanimously elected vice-chairman of the board. In acknowledging the appointment, Mr. Bond said that looking back to 1875, when he became acquainted with the infirmary as a pupil, the points that chiefly struck him were the great growth in the size and work of the institution, and the enormous development of surgical and medical science. He looked forward with hope, although in the immediate future there might be stormy times. The country could not do without hospitals, and it was, therefore, essential that they should be thoroughly efficient and up to date.

WE are requested to state that at a meeting of members of medical unions and other bodies in East and North-East London and the County of Essex held in the City on April 2nd, to "consider the best means of co-ordinating the work and policy of the said unions," a resolution to the following effect was carried with only one dissentient: "That in view of the coming representative meeting at Brighton, the British Medical Association be requested to summon a meeting of the chairmen and secretaries of all statutory and provisional Local Medical Committees and all other bodies interested in medical organization, as soon as possible, for the purpose of considering the national organization and consolidation of the entire medical profession."

THE *Journal of the American Medical Association* has collected a number of facts as to deaths in the medical profession of the United States and Canada, and the results are published in the issue of January 4th. During 1912 the deaths of 2,120 American and Canadian doctors were noted in the journal. Estimating the number of doctors in the two countries at 150,000, this figure is equal to an annual death-rate of 14.13 per 1,000. For the ten previous years the death-rates were as follows: 1911, 15.32; 1910, 16.96; 1909, 12.26; 1908, 17.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73; 1902, 14.74. The average annual mortality for the period from 1902 to 1912 inclusive was, therefore, 15.93 per 1,000. The age at death varied from 22 to 99, with an average of 60 years and 23 days. The general average of death since 1904 is 59 years, 9 months, and 28 days. The number of years of practice varied from 1 to 76, the average being 33 years 2 months 14 days. The average for the past nine years is 32 years 4 months and 8 days. The following figures show the causes of death: 187 deaths were attributed to general diseases, 264 to diseases of the nervous system, 278 to diseases of the circulatory system, 176 to diseases of the respiratory system, 95 to diseases of the digestive system, 147 to diseases of the genito-urinary system, 334 to senility, 4 to diseases of bones, 36 to suicide, 90 to accident, 12 to homicide, and 4 to other causes. Among the principal assigned causes of death are senility, 334; cerebral haemorrhage, 219; "heart disease," 200; pneumonia, 153; external causes, 138; nephritis, 127; accident, 90; after-operations, 86; tuberculosis, 55; cancer, 38; suicide, 36; appendicitis, 29; angina pectoris, 25; typhoid and arterio-sclerosis, each 24; diabetes, 18; septicaemia, 17; gastritis, 12; anaemia and meningitis, each 11; myocarditis, 10; paresis, mental alienation, embolism, cholelithiasis, and cirrhosis of the liver, each 9; influenza and bronchitis, each 7; intestinal obstruction and peritonitis, each 5; hernia, 4; erysipelas, rheumatism, endocarditis, gastric ulcer, prostatitis, and furunculosis, each 3; malaria, dysentery, alcoholism, pleurisy, anaesthesia, and enteritis, each 2; and pellagra, uncinariasis, drug addiction, locomotor ataxia, mastoiditis, pulmonary oedema, and placenta praevia, each 1. The causes assigned for the 90 deaths from accident were poison, 16; falls, railways, automobiles and animals, each 10; drowning, 9 (4 doctors went down on the *Titanic*); asphyxia and firearms, each 5; burns and street cars, each 4; strangulation, crushing, and freezing, each 2; and sunstroke, 1. The 36 doctors who ended their lives by suicide selected the following methods: Poison and firearms, each 15; asphyxia, 4; strangulation and cutting instruments, each 1. Of the 12 homicides, 11 were due to firearms, and 1 to a crushing injury from a blunt instrument. Of these 5 occurred in feuds or affrays.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

HYPERTROPHIED PROSTATE.

X. X. asks for suggestions for the treatment, short of enucleation, for enlarged prostate of only few months' duration. The patient is 59, strong, and of steady habits. He has had two very acute attacks presenting the usual symptoms. He is possibly gouty.

ANSWERS.

L.R.C.P.LOND. is referred to the announcement in the BRITISH MEDICAL JOURNAL of December 21st, 1912, p. 1734.

LETTERS, NOTES, ETC.

TOTAL ABSTINENCE—FROM WATER.

DR. JOHN HADDON (Denholm, Hawick, Scotland) writes: I had not studied the physiological action of foods upon me long before I saw that I must also study the effect of drink as well, and I came to the conclusion that a man living rightly as to food should never drink any fluid. It is one thing to be convinced and quite another to act upon one's conviction, but a health conscience is being evolved, and when conscience is at work it sometimes gains the mastery. My efforts to follow the dictates of this new conscience have been sadly interfered with by my medical faith. In 1911 I determined to live as I think I should before going to the annual meeting of the British Medical Association, that I might show myself, living upon no more protein than fruits contain, but my weight was coming down so fast that my faith failed me and I did not succeed in carrying out my intention. Last year, however, I determined to try again, going from home before the date of the annual meeting of that Association, so that I might be away from my scales and pay no attention to my weight, but I could not help seeing the change in my features, which astonished me. The cheek bones became prominent and the skin seemed to have got thinner, but, skeleton-like as I looked, I felt even more fit than I had done at times when I looked stouter, and I persevered, and was able to show myself living on fruit alone. When I got home and found my weight had come down to little over 7 st., I began to relax the stringency of my diet, my medical faith suggesting that that was not heavy enough for a man who once weighed 11 st. 9 lb. Since then, however, I have continued my observations and experiments, and by watching a dog deprived of all food, with water beside it, I am confirmed in my conviction—that we can do without any drink, even when fasting. The subject of this experiment is a deerhound bitch, which had just finished suckling a pup. She gets very fat when suckling, and she had a sort of mange and was scratching herself and making her skin bleed. I had bathed her and failed to cure the irritation by local applications, when I determined to try what effect a fast would have. I tied her up where she could get no food and left a dish of water beside her. She drank water for two or three days, and then she stopped taking any. The skin rapidly improved, she ceased to scratch, and I kept her fasting until she was free from all superfluous fat, but she never touched the water again. The lower animals are guided by instinct, and I knew they fasted from food when ill, but I did not know that they would abstain from water when fasting, and that seems to me a most pregnant fact, which even our physiologists may not know, and which some of them will, I have no doubt, appreciate. I had come to the conclusion, through my observations on the physiological action of foods, that we were, as it were, being drowned through deficient elimination, and I was gratified to hear in the Physiological Section at the last meeting of the British Medical Association that it had been proved by microscopic examination of the brain that the nerve cells were being drowned. They were shown on slides through the lantern, burst, like a ripe gooseberry after a heavy rain, with the nucleus escaping from the cell. Thus, physiologists have confirmed me in my conviction that feeding as he ought a man should never drink, even water.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.